

Here's those new references .. the date was sep 17 not 14

Tetra Tech 2008g

Email from Mark Dimsha, Epsilon Systems Solutions Inc., to Jay Rose, Tetra Tech, "Annual Transportation Impacts for the Year 2060-2070," September 17, 2008.

From: Mark Dimsha [mailto:mdimsha@epsilonsystems.com]
Sent: Wednesday, September 17, 2008 4:25 PM
To: Rose, Jay; Zimmerly, Jeff
Cc: Smouse, Debra
Subject: RE: Appendix E/Chapter 4/Summary files

Attached are the steady state impacts.

Mark

From: Rose, Jay [mailto:Jay.Rose@tetrtech.com]
Sent: Wednesday, September 17, 2008 1:49 PM
To: Mark Dimsha; Zimmerly, Jeff
Cc: Smouse, Debra
Subject: RE: Appendix E/Chapter 4/Summary files

Thx....if u can just fill in the highlighted ones for me that would be great

From: Mark Dimsha [mailto:mdimsha@epsilonsystems.com]
Sent: Wednesday, September 17, 2008 3:47 PM
To: Rose, Jay; Zimmerly, Jeff
Cc: Smouse, Debra
Subject: RE: Appendix E/Chapter 4/Summary files

I am working on the steady state numbers right now.

From: Rose, Jay [mailto:Jay.Rose@tetrtech.com]
Sent: Wednesday, September 17, 2008 1:46 PM
To: Mark Dimsha; Zimmerly, Jeff
Cc: Smouse, Debra
Subject: RE: Appendix E/Chapter 4/Summary files

What about these annual impacts in yr 2060?
ffffffffff

TABLE S.4-1—Comparison of Domestic Programmatic Alternatives for 200 GWe (Annual impacts at steady-state endpoint)

Alternative	SNF to repository	HLW to repository	GTCC LLW to disposal	Cs/Sr to disposal	LLW to disposal	Normal Operation	Annual Number of Radiological Shipments ^a	Transport Worker Loading/Handling Impacts ^b	Transport Worker Loading/Handling Impacts ^b	In-Transit Impacts ^b	In-Transit Impacts ^b
	MTHM/yr	m ³ /yr	m ³ /yr	m ³ /yr	m ³ /yr	LCFs/yr		(Truck)	(Rail)		
No Action	4,340	1,950	0	0	0	4,200-15,800	13	4,900	2,500	1	0
Fast Reactor Recycle	0	0	1,840	13,700	17-120 to 300	80,000-92,600	15	15,700	5,500	3	6
Thermal/Fast Reactor Recycle	0	0	1,810	13,200	17-120 to 300	73,000-84,600	15	17,600	5,700	4	3

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Thermal Recycle (Option 1)	0	0	1,740	13,400	120 to 360	56,000-67,800	14	17,700	5,300	4	2	2	2
Thermal Recycle (Option 2)	3,600	750	1,600	240	0	4,200-15,800	15	10,900	4,800	2	1	4	0
Thermal Recycle (Option 3)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thorium	2,050	920	0	0	0	4,200-15,800	13	6,800	3,300	1	0	2	0
HWR/HTGR (all-HWR Option)	10,600	2,250	0	0	0	4,200-15,800	13	13,900	7,000	3	0	4	0
HWR/HTGR (all-HTGR Option)	1,540	5,200-29,900	0	0	0	4,200-15,800	13	150,000	76,300	22	3	46	0

From: Mark Dimsha [mailto:mdimsha@epsilonsystems.com]
Sent: Wednesday, September 17, 2008 2:55 PM
To: Rose, Jay; Zimmerly, Jeff
Cc: Smouse, Debra
Subject: Appendix E/Chapter 4/Summary files

Attached are new files for the transportation assessment.

New assumptions include:

- Fresh LWR, thorium, HWR, and HTGR fuels incident-free impacts are equal to those provided for fresh MOX and transmutation fuels
- Spent fast reactor fuel loading, inspection, and in-transit impacts have been changed to equal impacts of the other spent fuels. This will avoid another stumbling block with GC.
- Inspection values for oxides rail shipments adjusted. (noticed this problem yesterday).

I will provide the supporting calcs spreadsheets in the next e-mail.

Next, I will move onto the steady-state impacts.

Mark

By the way, should I make the changes suggested for Chapter 7, or has that already been done? (add sentence to footnote & add reference to list)

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TABLE S.4-1—Comparison of Domestic Programmatic Alternatives for 200 GWe (Annual impacts at steady-state endpoint)

Alternative	SNF to repository	HLW to repository	GTCC LLW to disposal	Cs/Sr to disposal	LLW to disposal	Normal Operation	Annual Number of Radiological Shipments ^a	Transport Worker Loading/ Handling Impacts ^b (Truck)	Transport Worker Loading/ Handling Impacts ^b (Rail)	In- Transit Impacts ^b (Truck)	In- Transit Impacts ^b (Rail)
	MTHM/yr	m ³ /yr	m ³ /yr	m ³ /yr	m ³ /yr	LCFs/yr	(Truck)	(Rail)	LCFs/yr	LCFs/yr	LCFs/yr
No Action	4,340	1,950	0	0	0	4,200- 15,800	13	4,860	2,450	1	1
Fast Reactor Recycle	0	0	1,840	13,700	17-120 to 300	80,000- 92,600	15	15,700	5,460	3	3
Thermal/Fast Reactor Recycle	0	0	1,810	13,200	17-120 to 300	73,000- 84,600	15	17,600	5,680	3	2
Thermal Recycle (Option 1)	0	0	1,740	13,400	17-120 to 360	56,000- 67,800	14	17,700	5,270	3	2
Thermal Recycle (Option 2)	3,600	750	1,600	240	0	4,200- 15,800	15	10,900	4,810	2	1
Thermal Recycle (Option 3)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thorium	2,050	920	0	0	0	4,200- 15,800	13	6,800	3,310	2	1
HWR/HTGR (all-HWR Option)	10,600	2,250	0	0	0	4,200- 15,800	13	13,900	6,960	3	1
HWR/HTGR (all-HTGR Option)	1,540	5,200- 29,900	0	0	0	4,200- 15,800	13	150,000	76,300	35	16

Deleted: LCFs/yr

Deleted: LCFs/yr

TABLE 4.8-AA—Annual Number of Shipments at Steady State – All Truck Transit (200 Gigawatts of Electricity)

Material/Waste	No Action	All-Fast Recycle	Thermal/Fast Recycle	Thermal Recycle Option 1	Thermal Recycle Option 2	Thorium Cycle	All-HWR	All-HTGR
LWR SNF	2,170	1,300			1,800			
Fast Reactor SNF		1,800	1,350					
Cs/Sr waste		360	360					
HLW		1,860	1,830	1,760	1,620			
GTCC LLW		3,470	3,340	3,390	61			
LLW	516	3,030	2,760	2,220	516	516	516	516
Recovered Uranium (Aqueous)		360			498			
Recovered Uranium (Metal)		390	292					
MOX SNF			4,110	6,670				
Thorium SNF					3,140			
HWR SNF					2,280	6,710		
HTGR SNF							74,500	
<u>Fresh LWR fuel</u>	<u>2,170</u>	<u>1,300</u>			<u>1,800</u>			
<u>Transmutation fuel</u>		<u>1,800</u>	<u>1,350</u>					
<u>Fresh MOX fuel^a</u>			<u>2,250</u>	<u>3,650</u>				
<u>Fresh Thorium fuel</u>					<u>3,140</u>			
<u>Fresh HWR fuel</u>					<u>2,280</u>	<u>6,710</u>		
<u>Fresh HTGR fuel</u>							<u>74,500</u>	Formatted Table
Total Shipments	4,860	15,700	17,600	17,700	10,900	6,800	13,900	150,000

Source: Derived from Appendix E

Note: Thermal Recycle Alternative (Option 3) not included due to unavailability of data.

Note 2: The radiological impacts from the transportation of fresh nuclear fuel are expected to be much lower than the expected impacts due to the transport of the associated spent fuels (See Appendix E, Section E.2.2). Analysis of the radiological and non-radiological impacts due to the transport of transmutation and fresh MOX fuels was conducted, as nuclide inventories for both are available. For the other fresh fuels, only the non-radiological impacts (collision fatalities and vehicle emission fatalities) were provided. It is expected that these would be higher than the radiological impacts for the transport of these materials.

^aThe MOX spent fuel was assumed to be transported in DOE spent fuel canisters, with a capacity of 0.75 MTHM per container. Fresh MOX fuel was assumed to be transported in Class B containers as described in NRC 2005c. These containers have a capacity of 1.37 MTHM per shipment and are not appropriate for the shipment of spent fuel. Considering this, there would be approximately 83 percent more spent fuel shipments than fresh for the same amount of fuel.

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TABLE 4.8-BB — Annual Number of Shipments at Steady State – All Rail Transport (2009) Formatted Table

Material/Waste	No Action	All-Fast Recycle	Thermal/Fast Recycle	Thermal Recycle Option 1	Thermal Recycle Option 2	Thorium Cycle	All-HWR	All-HTGR
LWR SNF	174	104			144			
Fast Reactor SNF		360	270					
Cs/Sr waste		72	72					
HLW		372	366	352	324			
GTCC LLW		694	668	678	12			
LLW	103	605	553	443	103	103	103	103
Recovered Uranium (Aqueous)		72			100			
Recovered Uranium (Metal)		78	58					
MOX SNF			91	148				
Thorium SNF					70			
HWR SNF					51		149	
HTGR SNF								1,660
<u>Fresh LWR fuel^a</u>	<u>2,170</u>	<u>1,300</u>			<u>1,800</u>			
<u>Transmutation fuel^a</u>		<u>1,800</u>	<u>1,350</u>					
<u>Fresh MOX fuel^a</u>			<u>2,250</u>	<u>3,650</u>				
<u>Fresh Thorium fuel^a</u>					<u>3,140</u>			
<u>Fresh HWR fuel^a</u>					<u>2,280</u>		<u>6,710</u>	
<u>Fresh HTGR fuel^a</u>							<u>74,500</u>	
Total Shipments	<u>2,450</u>	<u>5,460</u>	<u>5,680</u>	<u>5,270</u>	<u>4,810</u>	<u>3,310</u>	<u>6,960</u>	<u>76,300</u>

Source: Derived from Appendix E

Note: Thermal Recycle Alternative (Option 3) not included due to unavailability of data

^aFresh fuels assumed to be transported via truck.

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**TABLE 4.8-CC—Summary of Annual Handling Impacts at Steady State,
All Programmatic Domestic Alternatives (Truck Transit)—200 Gigawatts of Electricity**

	Handling Impacts					
	Loading		Inspection		Total	
	person-rem	LCFs	person-rem	LCFs	person-rem	LCFs
No Action	<u>1,500</u>	1	<u>262</u>	0	<u>1,760</u>	1
Fast Recycle	<u>4,140</u>	2	<u>599</u>	0	<u>4,740</u>	3
Thermal/Fast Recycle	<u>4,800</u>	3	<u>692</u>	0	<u>5,490</u>	3
Thermal Recycle, Option 1	<u>4,940</u>	3	<u>748</u>	0	<u>5,690</u>	3
Thermal Recycle, Option 2	<u>3,400</u>	2	<u>540</u>	0	<u>3,940</u>	2
Thorium	<u>2,150</u>	1	<u>373</u>	0	<u>2,520</u>	2
HWR	<u>4,550</u>	3	<u>783</u>	0	<u>5,330</u>	3
HTGR	<u>50,100</u>	30	<u>8,570</u>	5	<u>58,700</u>	35

Source: Derived from Appendix E

Note:

1) LCFs rounded to nearest whole number.

2) Thermal Recycle Alternative (Option 3) not included due to unavailability of data

**TABLE 4.8-DD—Summary of Annual Handling Impacts at Steady State,
All Programmatic Domestic Alternatives (Rail Transit)—200 Gigawatts of Electricity**

	Handling Impacts					
	Loading		Inspection		Total	
	person-rem	LCFs	person-rem	LCFs	person-rem	LCFs
No Action	<u>1,110</u>	1	<u>103</u>	0	<u>1,210</u>	1
Fast Recycle	<u>4,490</u>	3	<u>371</u>	0	<u>4,860</u>	3
Thermal/Fast Recycle	<u>3,810</u>	2	<u>295</u>	0	<u>4,100</u>	2
Thermal Recycle, Option 1	<u>2,770</u>	2	<u>259</u>	0	<u>3,030</u>	2
Thermal Recycle, Option 2	<u>2,200</u>	1	<u>262</u>	0	<u>2,460</u>	1
Thorium	<u>997</u>	1	<u>135</u>	0	<u>1,130</u>	1
HWR	<u>2,120</u>	1	<u>287</u>	0	<u>2,410</u>	1
HTGR	<u>23,400</u>	14	<u>3,180</u>	2	<u>26,600</u>	16

Source: Derived from Appendix E

Note:

1) All LCFs rounded to nearest whole number.

2) Thermal Recycle Alternative (Option 3) not included due to unavailability of data

TABLE 4.8-EE—Summary of Annual In-Transit Transportation Impacts at Steady State, All Programmatic Domestic Alternatives (Truck Transit)—200 Gigawatts of Electricity

	In Transit Impacts (Note 1)				Total Incident- Free LCF's	Accident Impacts			
	Crew		Public			person- rem	LCFs	Collision Fatalities	
	person- rem	LCFs	person- rem	LCFs					
No Action	<u>424</u>	0	<u>2,720</u>	2	2	<u>0.0378</u>	0	0	
Fast Recycle	<u>2,190</u>	1	<u>8,390</u>	5	6	<u>2.63</u>	0	1	
Thermal/Fast Recycle	<u>2,350</u>	1	<u>9,420</u>	6	7	<u>2.01</u>	0	2	
Thermal Recycle, Option 1	<u>2,250</u>	1	<u>9,990</u>	6	7	<u>0.0930</u>	0	2	
Thermal Recycle, Option 2	<u>1,120</u>	1	<u>6,570</u>	4	5	<u>0.0317</u>	0	1	
Thorium	<u>603</u>	0	<u>3,910</u>	2	3	<u>3.64×10⁻⁵</u>	0	1	
HWR	<u>1,260</u>	1	<u>8,270</u>	5	6	<u>3.42×10⁻⁴</u>	0	1	
HTGR	<u>13,800</u>	8	<u>91,000</u>	55	63	<u>1.50×10⁻⁵</u>	0	13	

Source: Derived from Appendix E

Note:

1) The in transit impacts are highly dependent upon the assumption made regarding the location of a future geologic repository. The results in this table are based on the assumption that a future geologic repository would be located 2,100 mi (3,380 km) from any radiological shipments. Appendix E includes the results for smaller distances to a future repository. The in transit impacts are generally linear versus the distance to the geologic repository. That is, if a geologic repository were located 500 mi (805 km) away, the in transit impacts would be approximately 1/4th as much (500/2,100) as the values presented above.

2) LCFs rounded to nearest whole number. Note: Thermal Recycle Alternative (Option 3) not included due to unavailability of data

3) Thermal Recycle Alternative (Option 3) not included due to unavailability of data

TABLE 4.8-FF— Summary of Annual In-Transit Transportation Impacts at Steady State, All Programmatic Domestic Alternatives (Rail Transit)—200 Gigawatts of Electricity

	In Transit Impacts (Note 1)				Total Incident-Free LCF's	Accident Impacts		
	Crew		Public			person-rem	LCFs	Collision Fatalities
	person-rem	LCFs	person-rem	LCFs				
No Action	<u>45.3</u>	<u>0</u>	<u>834</u>	<u>1</u>	<u>1</u>	<u>0.0228</u>	<u>0</u>	<u>0</u>
Fast Recycle	<u>117</u>	<u>0</u>	<u>1,150</u>	<u>1</u>	<u>1</u>	<u>0.662</u>	<u>0</u>	<u>0</u>
Thermal/Fast Recycle	<u>288</u>	<u>0</u>	<u>1,820</u>	<u>1</u>	<u>1</u>	<u>0.546</u>	<u>0</u>	<u>0</u>
Thermal Recycle, Option 1	<u>110</u>	<u>0</u>	<u>1,680</u>	<u>1</u>	<u>1</u>	<u>0.136</u>	<u>0</u>	<u>0</u>
Thermal Recycle, Option 2	<u>98.3</u>	<u>0</u>	<u>1,720</u>	<u>1</u>	<u>1</u>	<u>0.00706</u>	<u>0</u>	<u>0</u>
Thorium	<u>54.8</u>	<u>0</u>	<u>1,180</u>	<u>1</u>	<u>1</u>	<u>6.45×10⁻⁵</u>	<u>0</u>	<u>0</u>
HWR	<u>116</u>	<u>0</u>	<u>2,510</u>	<u>2</u>	<u>2</u>	<u>3.02×10⁻⁴</u>	<u>0</u>	<u>1</u>
HTGR	<u>1,270</u>	<u>1</u>	<u>27,800</u>	<u>17</u>	<u>17</u>	<u>3.28×10⁻⁵</u>	<u>0</u>	<u>7</u>

Source: Derived from Appendix E

Note:

1) The in transit impacts are highly dependent upon the assumption made regarding the location of a future geologic repository. The results in this table are based on the assumption that a future geologic repository would be located 2,100 mi (3,380 km) from any radiological shipments. Appendix E includes the results for smaller distances to a future repository. The in transit impacts are generally linear versus the distance to the geologic repository. That is, if a geologic repository were located 500 mi (805 km) away, the in transit impacts would be approximately 1/4th as much (500/2,100) as the values presented above.

2) LCFs rounded to nearest whole number.

3) Thermal Recycle Alternative (Option 3) not included due to unavailability of data

Loading/Inspection Impacts

		Handling Impacts				Impacts at Stops				Escort Impacts	
		Loading		Inspection		Rail Yard		Nearby Residents			
	Mileage	person-rem	LCFs	Person-Rem	LCFs	person-rem	LCFs	Person-Rem	LCFs	Person-Rem	LCFs
Aq Cs/Sr	150	4.11E+00	2.76E-03	1.03E-01	6.18E-05	5.31E-05	3.19E-08	3.29E-06	1.97E-09	1.37E-04	8.23E-08
	500	4.11E+00	2.76E-03	1.03E-01	6.18E-05	1.77E-04	1.06E-07	1.10E-05	6.60E-09	4.53E-04	2.72E-07
	1500	4.11E+00	2.76E-03	1.03E-01	6.18E-05	5.31E-04	3.19E-07	3.29E-05	1.97E-08	1.36E-03	8.13E-07
	2100	4.11E+00	2.76E-03	1.03E-01	6.18E-05	7.43E-04	4.46E-07	4.61E-05	2.77E-08	1.91E-03	1.14E-06
	3000	4.11E+00	2.76E-03	1.03E-01	6.18E-05	1.06E-03	6.36E-07	6.58E-05	3.95E-08	2.71E-03	1.63E-06
Aq FP	150	1.45E+00	8.70E-04	1.45E-01	8.70E-05	4.42E-05	2.65E-08	4.43E-05	2.66E-08		
	500	1.45E+00	8.70E-04	1.45E-01	8.70E-05	1.48E-04	8.88E-08	9.17E-05	5.50E-08		
	1500	1.45E+00	8.70E-04	1.45E-01	8.70E-05	4.42E-04	2.65E-07	2.74E-04	1.64E-07		
	2100	1.45E+00	8.70E-04	1.45E-01	8.70E-05	6.19E-04	3.71E-07	3.84E-04	2.30E-07		
	3000	1.45E+00	8.70E-04	1.45E-01	8.70E-05	8.83E-04	5.30E-07	5.71E-04	3.43E-07		
Iodine	150	1.55E-01	9.30E-05	7.76E-03	4.66E-06	1.18E-07	7.08E-11	1.91E-06	1.15E-09		
	500	1.55E-01	9.30E-05	7.76E-03	4.66E-06	3.94E-07	2.36E-10	3.67E-06	2.20E-09		
	1500	1.55E-01	9.30E-05	7.76E-03	4.66E-06	1.18E-06	7.08E-10	1.91E-05	1.15E-08		
	2100	1.55E-01	9.30E-05	7.76E-03	4.66E-06	1.65E-06	9.90E-10	2.67E-05	1.60E-08		
	3000	1.55E-01	9.30E-05	7.76E-03	4.66E-06	2.36E-06	1.42E-09	3.82E-05	2.29E-08		
Aq Metal	150	1.45E+00	8.70E-04	1.45E-01	8.70E-05	2.19E-06	1.31E-09	3.54E-05	2.12E-08		
	500	1.45E+00	8.70E-04	1.45E-01	8.70E-05	7.39E-06	4.43E-09	1.19E-04	7.14E-08		
	1500	1.45E+00	8.70E-04	1.45E-01	8.70E-05	2.19E-05	1.31E-08	3.54E-04	2.12E-07		
	2100	1.45E+00	8.70E-04	1.45E-01	8.70E-05	3.07E-05	1.84E-08	4.96E-04	2.98E-07		
	3000	1.45E+00	8.70E-04	1.45E-01	8.70E-05	4.39E-05	2.63E-08	7.08E-04	4.25E-07		
EC Assembly	150	1.45E+00	8.70E-04	1.45E-01	8.70E-05	2.66E-05	1.60E-08	1.65E-06	9.90E-10		
	500	1.45E+00	8.70E-04	1.45E-01	8.70E-05	8.86E-08	5.32E-11	5.49E-06	3.29E-09		
	1500	1.45E+00	8.70E-04	1.45E-01	8.70E-05	2.66E-04	1.60E-07	1.65E-05	9.90E-09		
	2100	1.45E+00	8.70E-04	1.45E-01	8.70E-05	3.72E-04	2.23E-07	2.31E-05	1.39E-08		
	3000	1.45E+00	8.70E-04	1.45E-01	8.70E-05	5.31E-04	3.19E-07	3.29E-05	1.97E-08		
EC FP	150	1.45E+00	8.70E-04	1.45E-01	8.70E-05	1.33E-05	7.98E-09	8.23E-07	4.94E-10		
	500	1.45E+00	8.70E-04	1.45E-01	8.70E-05	4.43E-05	2.66E-08	2.74E-06	1.64E-09		
	1500	1.45E+00	8.70E-04	1.45E-01	8.70E-05	1.33E-04	7.98E-08	8.23E-06	4.94E-09		
	2100	1.45E+00	8.70E-04	1.45E-01	8.70E-05	1.86E-04	1.12E-07	1.15E-05	6.90E-09		

	3000	1.45E+00	8.70E-04	1.45E-01	8.70E-05	2.66E-04	1.60E-07	1.65E-05	9.90E-09		
EC Metal	150	1.45E+00	8.70E-04	1.45E-01	8.70E-05	2.21E-05	1.33E-08	1.37E-06	8.22E-10		
	500	1.45E+00	8.70E-04	1.45E-01	8.70E-05	7.39E-05	4.43E-08	4.57E-06	2.74E-09		
	1500	1.45E+00	8.70E-04	1.45E-01	8.70E-05	2.21E-04	1.33E-07	1.37E-05	8.22E-09		
	2100	1.45E+00	8.70E-04	1.45E-01	8.70E-05	3.10E-04	1.86E-07	1.92E-05	1.15E-08		
	3000	1.45E+00	8.70E-04	1.45E-01	8.70E-05	4.43E-04	2.66E-07	2.74E-05	1.64E-08		
UO _x (Aqueous Product)	150	7.69E-01	4.61E-04	3.20E-01	1.92E-04	2.29E-05	1.37E-08	1.28E-06	7.68E-10	6.85E-05	4.12E-08
	500	7.69E-01	4.61E-04	3.20E-01	1.92E-04	7.64E-05	4.58E-08	4.29E-06	2.57E-09	2.27E-04	1.36E-07
	1500	7.69E-01	4.61E-04	3.20E-01	1.92E-04	2.29E-04	1.37E-07	1.28E-05	7.68E-09	6.80E-04	4.07E-07
	2100	7.69E-01	4.61E-04	3.20E-01	1.92E-04	3.21E-04	1.93E-07	1.80E-05	1.08E-08	9.55E-04	5.70E-07
	3000	7.69E-01	4.61E-04	3.20E-01	1.92E-04	4.58E-04	2.75E-07	2.57E-05	1.54E-08	1.36E-03	8.15E-07
UMet (Electrochem. Product)	150	5.13E-01	3.08E-04	2.14E-01	1.28E-04	1.91E-06	1.15E-09	1.18E-07	7.08E-11	6.85E-05	4.12E-08
	500	5.13E-01	3.08E-04	2.14E-01	1.28E-04	6.37E-06	3.82E-09	3.94E-07	2.36E-10	2.27E-04	1.36E-07
	1500	5.13E-01	3.08E-04	2.14E-01	1.28E-04	1.91E-05	1.15E-08	1.18E-06	7.08E-10	6.80E-04	4.07E-07
	2100	5.13E-01	3.08E-04	2.14E-01	1.28E-04	2.67E-05	1.60E-08	1.65E-06	9.90E-10	9.55E-04	5.70E-07
	3000	5.13E-01	3.08E-04	2.14E-01	1.28E-04	3.82E-05	2.29E-08	2.36E-06	1.42E-09	1.36E-03	8.15E-07
LWR SNF	150	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.27E-06	7.62E-10	2.38E-04	1.43E-07	1.37E-04	8.23E-08
	500	3.32E+00	1.99E-03	7.38E-02	4.43E-05	4.22E-06	2.53E-09	7.95E-04	4.77E-07	4.53E-04	2.72E-07
	1500	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.27E-05	7.62E-09	2.38E-03	1.43E-06	1.36E-03	8.13E-07
	2100	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.78E-05	1.07E-08	3.33E-03	2.00E-06	1.91E-03	1.14E-06
	3000	3.32E+00	1.99E-03	7.38E-02	4.43E-05	2.53E-05	1.52E-08	4.76E-03	2.86E-06	2.71E-03	1.63E-06
MOX Fuel SNF	150	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.27E-06	7.62E-10	2.38E-04	1.43E-07	1.37E-04	8.23E-08
	500	3.32E+00	1.99E-03	7.38E-02	4.43E-05	4.22E-06	2.53E-09	7.95E-04	4.77E-07	4.53E-04	2.72E-07
	1500	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.27E-05	7.62E-09	2.38E-03	1.43E-06	1.36E-03	8.13E-07
	2100	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.78E-05	1.07E-08	3.33E-03	2.00E-06	1.91E-03	1.14E-06
	3000	3.32E+00	1.99E-03	7.38E-02	4.43E-05	2.53E-05	1.52E-08	4.76E-03	2.86E-06	2.71E-03	1.63E-06
Thorium Cycle SNF	150	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.27E-06	7.62E-10	2.38E-04	1.43E-07	1.37E-04	8.23E-08
	500	3.32E+00	1.99E-03	7.38E-02	4.43E-05	4.22E-06	2.53E-09	7.95E-04	4.77E-07	4.53E-04	2.72E-07
	1500	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.27E-05	7.62E-09	2.38E-03	1.43E-06	1.36E-03	8.13E-07
	2100	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.78E-05	1.07E-08	3.33E-03	2.00E-06	1.91E-03	1.14E-06
	3000	3.32E+00	1.99E-03	7.38E-02	4.43E-05	2.53E-05	1.52E-08	4.76E-03	2.86E-06	2.71E-03	1.63E-06
HWR SNF	150	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.27E-06	7.62E-10	2.38E-04	1.43E-07	1.37E-04	8.23E-08
	500	3.32E+00	1.99E-03	7.38E-02	4.43E-05	4.22E-06	2.53E-09	7.95E-04	4.77E-07	4.53E-04	2.72E-07
	1500	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.27E-05	7.62E-09	2.38E-03	1.43E-06	1.36E-03	8.13E-07
	2100	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.78E-05	1.07E-08	3.33E-03	2.00E-06	1.91E-03	1.14E-06

	3000	3.32E+00	1.99E-03	7.38E-02	4.43E-05	2.53E-05	1.52E-08	4.76E-03	2.86E-06	2.71E-03	1.63E-06
HTGR SNF	150	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.27E-06	7.62E-10	2.38E-04	1.43E-07	1.37E-04	8.23E-08
	500	3.32E+00	1.99E-03	7.38E-02	4.43E-05	4.22E-06	2.53E-09	7.95E-04	4.77E-07	4.53E-04	2.72E-07
	1500	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.27E-05	7.62E-09	2.38E-03	1.43E-06	1.36E-03	8.13E-07
	2100	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.78E-05	1.07E-08	3.33E-03	2.00E-06	1.91E-03	1.14E-06
	3000	3.32E+00	1.99E-03	7.38E-02	4.43E-05	2.53E-05	1.52E-08	4.76E-03	2.86E-06	2.71E-03	1.63E-06
Fresh Fast Reactor Fuel	150	4.18E+00	2.51E-03	2.09E-01	1.25E-04	3.02E-07	1.81E-10	4.32E-06	2.59E-09	1.41E-05	8.47E-09
	500	4.18E+00	2.51E-03	2.09E-01	1.25E-04	1.01E-06	6.06E-10	1.44E-05	8.64E-09	4.69E-05	2.81E-08
	1500	4.18E+00	2.51E-03	2.09E-01	1.25E-04	3.02E-06	1.81E-09	4.32E-05	2.59E-08	1.41E-04	8.44E-08
	2100	4.18E+00	2.51E-03	2.09E-01	1.25E-04	4.23E-06	2.54E-09	6.05E-05	3.63E-08	1.91E-03	1.14E-06
	3000	4.18E+00	2.51E-03	2.09E-01	1.25E-04	6.05E-06	3.63E-09	8.65E-05	5.19E-08	2.81E-04	1.69E-07
Fast Reactor SNF	150	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.27E-06	7.62E-10	2.38E-04	1.43E-07	1.37E-04	8.23E-08
	500	3.32E+00	1.99E-03	7.38E-02	4.43E-05	4.22E-06	2.53E-09	7.95E-04	4.77E-07	4.53E-04	2.72E-07
	1500	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.27E-05	7.62E-09	2.38E-03	1.43E-06	1.36E-03	8.13E-07
	2100	3.32E+00	1.99E-03	7.38E-02	4.43E-05	1.78E-05	1.07E-08	3.33E-03	2.00E-06	1.91E-03	1.14E-06
	3000	3.32E+00	1.99E-03	7.38E-02	4.43E-05	2.53E-05	1.52E-08	4.76E-03	2.86E-06	2.71E-03	1.63E-06
GTCC	150	1.25E+00	7.50E-04	6.24E-02	3.74E-05	5.91E-07	3.55E-10	9.54E-06	5.72E-09	1.41E-05	8.47E-09
	500	1.25E+00	7.50E-04	6.24E-02	3.74E-05	1.97E-06	1.18E-09	3.18E-05	1.91E-08	4.69E-05	2.81E-08
	1500	1.25E+00	7.50E-04	6.24E-02	3.74E-05	5.91E-06	3.55E-09	9.54E-05	5.72E-08	1.41E-04	8.44E-08
	2100	1.25E+00	7.50E-04	6.24E-02	3.74E-05	8.27E-06	4.96E-09	1.34E-04	8.02E-08	1.91E-03	1.14E-06
	3000	1.25E+00	7.50E-04	6.24E-02	3.74E-05	1.18E-05	7.08E-09	1.91E-04	1.15E-07	2.81E-04	1.69E-07
LLW	150	1.06E-01	6.36E-05	1.05E-02	6.30E-06	2.36E-07	1.42E-10	4.02E-06	2.41E-09	1.41E-05	8.47E-09
	500	1.06E-01	6.36E-05	1.05E-02	6.30E-06	9.97E-07	5.98E-10	1.34E-05	8.04E-09	4.69E-05	2.81E-08
	1500	1.06E-01	6.36E-05	1.05E-02	6.30E-06	2.36E-06	1.42E-09	3.82E-05	2.29E-08	1.41E-04	8.44E-08
	2100	1.06E-01	6.36E-05	1.05E-02	6.30E-06	3.30E-06	1.98E-09	5.35E-05	3.21E-08	1.91E-03	1.14E-06
	3000	1.06E-01	6.36E-05	1.05E-02	6.30E-06	4.73E-06	2.84E-09	7.63E-05	4.58E-08	2.81E-04	1.69E-07

	Mileage	Handling Impacts				Impacts at Stops				Escort Impacts	
		Loading		Inspection		Truck Stop		Nearby Residents			
		person-rem	LCFs	Person-Rem	LCFs	person-rem	LCFs	Person-Rem	LCFs	Person-Rem	LCFs
LWR	3.45E+02	2.07E-01	7.68E+00	4.61E-03	1.85E-03	1.11E-06	3.46E-01	2.08E-04	1.99E-01	1.19E-04	
fresh lwr	3.12E+02	1.87E-01	5.33E+01	3.20E-02	3.09E-03	1.85E-06	4.68E-02	2.81E-05	1.28E-01	7.68E-05	
fast spent	1.20E+03	7.17E-01	2.66E+01	1.59E-02	6.41E-03	3.84E-06	1.20E+00	7.19E-04	6.88E-01	4.10E-04	
trans	7.78E+02	4.67E-01	1.33E+02	7.97E-02	7.70E-03	4.62E-06	1.17E-01	7.00E-05	3.55E-01	2.12E-04	
Cs	2.96E+02	1.99E-01	7.42E+00	4.45E-03	5.35E-02	3.21E-05	3.32E-03	1.99E-06	1.38E-01	8.21E-05	
met	3.13E+02	1.88E-01	3.13E+01	1.88E-02	6.63E-03	3.98E-06	1.07E-01	6.43E-05	0.00E+00	0.00E+00	
fp	2.26E+02	1.36E-01	2.26E+01	1.36E-02	9.66E-02	5.79E-05	5.99E-02	3.59E-05	0.00E+00	0.00E+00	
gtcc	8.68E+02	5.21E-01	4.33E+01	2.60E-02	5.74E-03	3.44E-06	9.27E-02	5.56E-05	1.33E+00	7.91E-04	
llw	6.41E+01	3.85E-02	6.35E+00	3.81E-03	2.00E-03	1.20E-06	3.24E-02	1.94E-05	1.16E+00	6.90E-04	
uox	5.54E+01	3.32E-02	2.30E+01	1.38E-02	2.31E-02	1.39E-05	1.30E-03	7.78E-07	6.88E-02	4.10E-05	
umet	4.00E+01	2.40E-02	1.67E+01	1.00E-02	2.08E-03	1.25E-06	1.29E-04	7.72E-08	7.45E-02	4.45E-05	
TOTAL (AllFast)	4.49E+03	2.72E+00	3.71E+02	2.23E-01	2.09E-01	1.25E-04	2.01E+00	1.20E-03	4.13E+00	2.47E-03	
MOX	3.02E+02	1.81E-01	6.72E+00	4.03E-03	1.62E-03	9.72E-07	3.03E-01	1.82E-04	1.74E-01	1.04E-04	
Spent fast	8.96E+02	5.38E-01	1.99E+01	1.20E-02	4.81E-03	2.88E-06	8.99E-01	5.39E-04	5.16E-01	3.08E-04	
trans fuel	3.24E+02	1.94E-01	5.54E+01	3.32E-02	3.21E-03	1.93E-06	4.86E-02	2.92E-05	1.33E-01	7.98E-05	
fresh MOX	5.40E+02	3.24E-01	9.23E+01	5.54E-02	5.35E-03	3.21E-06	8.10E-02	4.86E-05	2.22E-01	1.33E-04	
cs	2.96E+02	1.99E-01	7.42E+00	4.45E-03	5.35E-02	3.21E-05	3.32E-03	1.99E-06	1.38E-01	8.21E-05	
met	3.09E+02	1.85E-01	3.09E+01	1.85E-02	6.54E-03	3.92E-06	1.06E-01	6.34E-05	0.00E+00	0.00E+00	
fp	2.23E+02	1.34E-01	2.23E+01	1.34E-02	9.53E-02	5.72E-05	5.91E-02	3.55E-05	0.00E+00	0.00E+00	
gtcc	8.35E+02	5.01E-01	4.17E+01	2.50E-02	5.52E-03	3.31E-06	8.92E-02	5.35E-05	1.28E+00	7.62E-04	
llw	5.86E+01	3.52E-02	5.81E+00	3.48E-03	1.82E-03	1.09E-06	2.96E-02	1.78E-05	1.06E+00	6.30E-04	
umet	2.98E+01	1.79E-02	1.24E+01	7.45E-03	1.55E-03	9.29E-07	9.57E-05	5.74E-08	5.54E-02	3.31E-05	
TOT (therm/fast)	3.81E+03	2.31E+00	2.95E+02	1.77E-01	1.79E-01	1.08E-04	1.62E+00	9.71E-04	3.57E+00	2.13E-03	
MOX	4.91E+02	2.95E-01	1.09E+01	6.55E-03	2.63E-03	1.58E-06	4.93E-01	2.96E-04	2.83E-01	1.69E-04	
fresh MOX	8.76E+02	5.26E-01	1.50E+02	8.98E-02	8.68E-03	5.21E-06	1.31E-01	7.88E-05	3.60E-01	2.16E-04	

met	2.97E+02	1.78E-01	2.97E+01	1.78E-02	6.29E-03	3.78E-06	1.02E-01	6.10E-05	0.00E+00	0.00E+00
fp	2.15E+02	1.29E-01	2.15E+01	1.29E-02	9.16E-02	5.50E-05	5.68E-02	3.41E-05	0.00E+00	0.00E+00
gtcc	8.48E+02	5.09E-01	4.23E+01	2.54E-02	5.61E-03	3.36E-06	9.06E-02	5.43E-05	1.29E+00	7.73E-04
llw	4.70E+01	2.82E-02	4.65E+00	2.79E-03	1.46E-03	8.77E-07	2.37E-02	1.42E-05	8.46E-01	5.05E-04
Therm Opt I	2.77E+03	1.66E+00	2.59E+02	1.55E-01	1.16E-01	6.98E-05	8.97E-01	5.38E-04	2.78E+00	1.66E-03
LWR	4.78E+02	2.87E-01	1.06E+01	6.38E-03	2.56E-03	1.54E-06	4.80E-01	2.88E-04	2.75E-01	1.64E-04
fresh lwr	4.32E+02	2.59E-01	7.38E+01	4.43E-02	4.28E-03	2.57E-06	6.48E-02	3.89E-05	1.77E-01	1.06E-04
met	2.73E+02	1.64E-01	2.73E+01	1.64E-02	5.77E-03	3.46E-06	9.32E-02	5.59E-05	0.00E+00	0.00E+00
fp	1.97E+02	1.18E-01	1.97E+01	1.18E-02	8.42E-02	5.05E-05	5.22E-02	3.13E-05	0.00E+00	0.00E+00
gtcc	1.50E+01	9.00E-03	7.49E-01	4.49E-04	9.92E-05	5.95E-08	1.60E-03	9.62E-07	2.29E-02	1.37E-05
LLW	1.09E+01	6.55E-03	1.08E+00	6.49E-04	3.40E-04	2.04E-07	5.51E-03	3.31E-06	1.97E-01	1.17E-04
uox	7.69E+01	4.61E-02	3.20E+01	1.92E-02	3.21E-02	1.93E-05	1.80E-03	1.08E-06	9.55E-02	5.70E-05
fresh hwr	5.47E+02	3.28E-01	9.35E+01	5.61E-02	5.42E-03	3.25E-06	8.21E-02	4.92E-05	2.25E-01	1.35E-04
hwr snf	1.69E+02	1.02E-01	3.76E+00	2.26E-03	9.08E-04	5.45E-07	1.70E-01	1.02E-04	9.74E-02	5.81E-05
Therm Opt II	2.20E+03	1.32E+00	2.62E+02	1.57E-01	1.36E-01	8.14E-05	9.51E-01	5.70E-04	1.09E+00	6.52E-04
LLW	1.09E+01	6.55E-03	1.08E+00	6.49E-04	3.40E-04	2.04E-07	5.51E-03	3.31E-06	1.97E-01	1.17E-04
hwr fresh	1.61E+03	9.66E-01	2.75E+02	1.65E-01	1.60E-02	9.57E-06	2.42E-01	1.45E-04	6.61E-01	3.97E-04
HWR snf	4.95E+02	2.97E-01	1.10E+01	6.60E-03	2.65E-03	1.59E-06	4.96E-01	2.98E-04	2.85E-01	1.70E-04
All-HWR	2.12E+03	1.27E+00	2.87E+02	1.72E-01	1.89E-02	1.14E-05	7.43E-01	4.46E-04	1.14E+00	6.84E-04
LLW	1.09E+01	6.55E-03	1.08E+00	6.49E-04	3.40E-04	2.04E-07	5.51E-03	3.31E-06	1.97E-01	1.17E-04
htgr fresh	1.79E+04	1.07E+01	3.05E+03	1.83E+00	1.77E-01	1.06E-04	2.68E+00	1.61E-03	7.34E+00	4.40E-03
HTGR	5.51E+03	3.31E+00	1.23E+02	7.35E-02	2.95E-02	1.77E-05	5.53E+00	3.32E-03	3.17E+00	1.89E-03
All-HTGR	2.34E+04	1.40E+01	3.18E+03	1.91E+00	2.07E-01	1.24E-04	8.22E+00	4.93E-03	1.07E+01	6.41E-03
LLW	1.09E+01	6.55E-03	1.08E+00	6.49E-04	3.40E-04	2.04E-07	5.51E-03	3.31E-06	1.97E-01	1.17E-04
Thor fresh	7.54E+02	4.52E-01	1.29E+02	7.72E-02	7.47E-03	4.48E-06	1.13E-01	6.78E-05	3.09E-01	1.86E-04
thor snf	2.32E+02	1.39E-01	5.17E+00	3.10E-03	1.25E-03	7.48E-07	2.33E-01	1.40E-04	1.34E-01	7.98E-05
Thorium cycle	9.97E+02	5.98E-01	1.35E+02	8.10E-02	9.05E-03	5.43E-06	3.52E-01	2.11E-04	6.40E-01	3.83E-04
LWR	5.78E+02	3.47E-01	1.28E+01	7.70E-03	3.10E-03	1.86E-06	5.79E-01	3.48E-04	3.32E-01	1.98E-04
fresh lwr	5.21E+02	3.12E-01	8.90E+01	5.34E-02	5.16E-03	3.10E-06	7.81E-02	4.69E-05	2.14E-01	1.28E-04
LLW	1.09E+01	6.55E-03	1.08E+00	6.49E-04	3.40E-04	2.04E-07	5.51E-03	3.31E-06	1.97E-01	1.17E-04
No Action	1.11E+03	6.66E-01	1.03E+02	6.17E-02	8.60E-03	5.16E-06	6.63E-01	3.98E-04	7.43E-01	4.44E-04

In-Transit Incident-Free Impacts

		Crew Impacts		Impacts to Public		
	Mileage	Person-Rem	LCFs	Person-Rem	LCFs	Non-Radiological Emission Fatalities
Aq Cs/Sr	150	4.06E-03	2.44E-06	1.37E-02	8.22E-06	6.28E-09
	500	1.35E-02	8.10E-06	4.57E-02	2.74E-05	2.09E-08
	1500	4.06E-02	2.44E-05	1.39E-01	8.34E-05	6.28E-08
	2100	5.68E-02	3.41E-05	1.93E-01	1.16E-04	8.78E-08
	3000	8.12E-02	4.87E-05	2.74E-01	1.64E-04	1.26E-07
Aq FP	150	4.06E-03	2.44E-06	4.88E-02	2.93E-05	6.28E-09
	500	1.35E-02	8.10E-06	1.61E-01	9.67E-05	2.09E-08
	1500	4.06E-02	2.44E-05	4.86E-01	2.92E-04	6.28E-08
	2100	5.68E-02	3.41E-05	6.81E-01	4.09E-04	8.78E-08
	3000	8.12E-02	4.87E-05	9.73E-01	5.84E-04	1.26E-07
Iodine	150	9.48E-03	5.69E-06	2.11E-03	1.27E-06	
	500	1.35E-02	8.10E-06	6.99E-03	4.20E-06	
	1500	2.49E-02	1.49E-05	2.10E-02	1.26E-05	
	2100	3.18E-02	1.91E-05	2.94E-02	1.76E-05	
	3000	4.21E-02	2.53E-05	4.20E-02	2.52E-05	
Aq Metal	150	4.06E-03	2.44E-06	2.20E-02	1.32E-05	6.28E-09
	500	1.35E-02	8.10E-06	7.31E-02	4.39E-05	2.09E-08
	1500	4.06E-02	2.44E-05	2.82E-01	1.69E-04	6.28E-08
	2100	5.68E-02	3.41E-05	3.97E-01	2.38E-04	8.78E-08
	3000	8.12E-02	4.87E-05	4.38E-01	2.63E-04	1.26E-07
EC Assembly	150	4.06E-03	2.44E-06	1.64E-02	9.84E-06	6.28E-09
	500	1.35E-02	8.10E-06	5.48E-02	3.29E-05	2.09E-08
	1500	4.06E-02	2.44E-05	1.64E-01	9.84E-05	6.28E-08
	2100	5.68E-02	3.41E-05	1.96E-01	1.17E-04	8.78E-08
	3000	8.12E-02	4.87E-05	3.29E-01	1.97E-04	1.26E-07
EC FP	150	4.06E-03	2.44E-06	8.22E-03	4.93E-06	6.28E-09
	500	1.35E-02	8.10E-06	2.74E-02	1.65E-05	2.09E-08
	1500	4.06E-02	2.44E-05	8.22E-02	4.93E-05	6.28E-08
	2100	5.68E-02	3.41E-05	9.78E-02	5.87E-05	8.78E-08

	3000	8.12E-02	4.87E-05	1.64E-01	9.84E-05	1.26E-07
EC Metal	150	4.06E-03	2.44E-06	1.37E-02	8.23E-06	6.28E-09
	500	1.35E-02	8.10E-06	4.57E-02	2.74E-05	2.09E-08
	1500	4.06E-02	2.44E-05	1.37E-01	8.23E-05	6.28E-08
	2100	5.68E-02	3.41E-05	1.63E-01	9.77E-05	8.78E-08
	3000	8.12E-02	4.87E-05	2.74E-01	1.65E-04	1.26E-07
	150	2.03E-03	1.22E-06	5.79E-03	3.47E-06	6.28E-09
UOx (Aqueous Product)	500	6.63E-03	3.98E-06	1.97E-03	1.18E-06	2.09E-08
	1500	2.03E-02	1.22E-05	5.79E-02	3.47E-05	6.28E-08
	2100	2.84E-02	1.70E-05	5.79E-02	3.47E-05	8.78E-08
	3000	4.06E-02	2.44E-05	8.10E-02	4.86E-05	1.26E-07
	150	2.03E-03	1.22E-06	5.21E-03	3.13E-06	6.28E-09
UMet (Electrochem. Product)	500	6.63E-03	3.98E-06	1.77E-02	1.06E-05	2.09E-08
	1500	2.03E-02	1.22E-05	5.21E-02	3.13E-05	6.28E-08
	2100	2.84E-02	1.70E-05	7.29E-02	7.56E-06	8.78E-08
	3000	4.06E-02	2.44E-05	1.04E-01	6.24E-05	1.26E-07
	150	4.06E-03	2.44E-06	1.26E-02	7.58E-06	6.28E-09
LWR SNF	500	1.35E-02	8.10E-06	4.21E-02	2.53E-05	2.09E-08
	1500	4.06E-02	2.44E-05	1.26E-01	7.58E-05	6.28E-08
	2100	5.68E-02	3.41E-05	1.50E-01	9.01E-05	8.78E-08
	3000	8.12E-02	4.87E-05	2.53E-01	1.52E-04	1.26E-07
	150	4.06E-03	2.44E-06	1.26E-02	7.58E-06	6.28E-09
MOX Fuel SNF	500	1.35E-02	8.10E-06	4.21E-02	2.53E-05	2.09E-08
	1500	4.06E-02	2.44E-05	1.26E-01	7.58E-05	6.28E-08
	2100	5.68E-02	3.41E-05	1.50E-01	9.01E-05	8.78E-08
	3000	8.12E-02	4.87E-05	2.53E-01	1.52E-04	1.26E-07
	150	4.06E-03	2.44E-06	1.26E-02	7.58E-06	6.28E-09
Thorium Cycle SNF	500	1.35E-02	8.10E-06	4.21E-02	2.53E-05	2.09E-08
	1500	4.06E-02	2.44E-05	1.26E-01	7.58E-05	6.28E-08
	2100	5.68E-02	3.41E-05	1.50E-01	9.01E-05	8.78E-08
	3000	8.12E-02	4.87E-05	2.53E-01	1.52E-04	1.26E-07
	150	4.06E-03	2.44E-06	1.26E-02	7.58E-06	6.28E-09
HWR SNF	500	1.35E-02	8.10E-06	4.21E-02	2.53E-05	2.09E-08
	1500	4.06E-02	2.44E-05	1.26E-01	7.58E-05	6.28E-08
	2100	5.68E-02	3.41E-05	1.50E-01	9.01E-05	8.78E-08
	2100	5.68E-02	3.41E-05	1.50E-01	9.01E-05	8.78E-08

	3000	8.12E-02	4.87E-05	2.53E-01	1.52E-04	1.26E-07
HTGR SNF	150	4.06E-03	2.44E-06	1.26E-02	7.58E-06	6.28E-09
	500	1.35E-02	8.10E-06	4.21E-02	2.53E-05	2.09E-08
	1500	4.06E-02	2.44E-05	1.26E-01	7.58E-05	6.28E-08
	2100	5.68E-02	3.41E-05	1.50E-01	9.01E-05	8.78E-08
	3000	8.12E-02	4.87E-05	2.53E-01	1.52E-04	1.26E-07
Fresh Fast Reactor Fuel	150	2.03E-03	1.22E-06	3.59E-05	2.15E-08	6.28E-09
	500	6.63E-03	3.98E-06	1.20E-04	7.17E-08	2.09E-08
	1500	2.03E-02	1.22E-05	3.59E-04	2.15E-07	6.28E-08
	2100	2.84E-02	1.70E-05	5.02E-04	3.01E-07	8.78E-08
	3000	4.06E-02	2.44E-05	7.17E-04	4.30E-07	1.26E-07
Fast Reactor SNF	150	4.06E-03	2.44E-06	1.26E-02	7.58E-06	6.28E-09
	500	1.35E-02	8.10E-06	4.21E-02	2.53E-05	2.09E-08
	1500	4.06E-02	2.44E-05	1.26E-01	7.58E-05	6.28E-08
	2100	5.68E-02	3.41E-05	1.50E-01	9.01E-05	8.78E-08
	3000	8.12E-02	4.87E-05	2.53E-01	1.52E-04	1.26E-07
GTCC	150	2.03E-03	1.22E-06	1.05E-02	6.30E-06	6.28E-09
	500	6.63E-03	3.98E-06	3.50E-02	2.10E-05	2.09E-08
	1500	2.03E-02	1.22E-05	1.05E-01	6.30E-05	6.28E-08
	2100	2.84E-02	1.70E-05	1.47E-01	8.82E-05	8.78E-08
	3000	4.06E-02	2.44E-05	2.10E-01	1.26E-04	1.26E-07
LLW	150	8.12E-04	4.87E-07	4.21E-03	2.53E-06	6.28E-09
	500	2.65E-03	1.59E-06	1.40E-02	8.40E-06	2.09E-08
	1500	8.12E-03	4.87E-06	4.20E-02	2.52E-05	6.28E-08
	2100	1.14E-02	6.82E-06	5.29E-02	3.17E-05	8.79E-08
	3000	1.62E-02	9.74E-06	8.07E-02	4.84E-05	1.26E-07

		Mileage	Impacts to Public			Non-Radiological Emission Fatalities
			Person-Rem	LCFs		
104	TOTAL	5.91E+00	3.54E-03	1.56E+01	9.37E-03	9.13E-06
1.30E+03		2.05E+01	1.23E-02	4.81E+02	2.89E-01	6.59E-05
360		2.04E+01	1.23E-02	5.41E+01	3.24E-02	3.16E-05
1.80E+03		3.04E+02	1.83E-01	1.53E+03	9.19E-01	9.13E-05
72		4.09E+00	2.45E-03	1.39E+01	8.34E-03	6.32E-06
216		1.23E+01	7.36E-03	8.58E+01	5.15E-02	1.90E-05
156		8.86E+00	5.32E-03	1.06E+02	6.37E-02	1.37E-05
694		1.97E+01	1.18E-02	1.02E+02	6.12E-02	6.09E-05
605		6.87E+00	4.12E-03	3.20E+01	1.92E-02	5.32E-05
72		2.04E+00	1.23E-03	4.17E+00	2.50E-03	6.32E-06
78	4.64E+00	2.22E+00	1.33E-03	5.69E+00	5.90E-04	6.85E-06
5457		4.07E+02	2.44E-01	2.43E+03	1.46E+00	3.64E-04
91		5.17E+00	3.10E-03	1.37E+01	8.20E-03	7.99E-06
270		1.53E+01	9.20E-03	4.06E+01	2.43E-02	2.37E-05
1.35E+03		1.88E+02	1.13E-01	4.71E+02	2.83E-01	6.84E-05
2.25E+03		3.56E+01	2.13E-02	8.33E+02	5.00E-01	1.14E-04
72		4.09E+00	2.45E-03	1.39E+01	8.34E-03	6.32E-06
213		1.21E+01	7.26E-03	8.46E+01	5.07E-02	1.87E-05
154		8.75E+00	5.25E-03	1.05E+02	6.29E-02	1.35E-05
668		1.90E+01	1.14E-02	9.82E+01	5.89E-02	5.87E-05
553	3.68E+00	6.28E+00	3.77E-03	2.93E+01	1.76E-02	4.86E-05
58		1.65E+00	9.88E-04	4.23E+00	4.38E-04	5.09E-06
5679		2.96E+02	1.77E-01	1.69E+03	1.01E+00	3.65E-04
148		8.41E+00	5.04E-03	2.22E+01	1.33E-02	1.30E-05
3.65E+03		5.77E+01	3.46E-02	1.35E+03	8.10E-01	1.85E-04

205			1.16E+01	6.99E-03	8.14E+01	4.88E-02	1.80E-05
148			8.41E+00	5.04E-03	1.01E+02	6.05E-02	1.30E-05
678			1.93E+01	1.16E-02	9.97E+01	5.98E-02	5.95E-05
443			5.03E+00	3.02E-03	2.34E+01	1.41E-02	3.89E-05
5272	2.89E+00		1.10E+02	6.62E-02	1.68E+03	1.01E+00	3.28E-04
144			8.18E+00	4.91E-03	2.16E+01	1.30E-02	1.26E-05
1.80E+03			2.84E+01	1.71E-02	6.66E+02	4.00E-01	9.13E-05
188			1.07E+01	6.41E-03	7.46E+01	4.48E-02	1.65E-05
136			7.72E+00	4.63E-03	9.26E+01	5.56E-02	1.19E-05
12			3.41E-01	2.04E-04	1.76E+00	1.06E-03	1.05E-06
103			1.17E+00	7.02E-04	5.45E+00	3.27E-03	9.05E-06
100			2.84E+00	1.70E-03	5.79E+00	3.47E-03	8.78E-06
2.28E+03			3.60E+01	2.16E-02	8.44E+02	5.06E-01	1.16E-04
51			2.90E+00	1.74E-03	7.66E+00	4.60E-03	4.48E-06
4814	2.57E+00		9.83E+01	5.90E-02	1.72E+03	1.03E+00	2.71E-04
103			1.17E+00	7.02E-04	5.45E+00	3.27E-03	9.05E-06
6.71E+03			1.06E+02	6.36E-02	2.48E+03	1.49E+00	3.40E-04
149			8.46E+00	5.08E-03	2.24E+01	1.34E-02	1.31E-05
6962	3.02E+00		1.16E+02	6.94E-02	2.51E+03	1.51E+00	3.62E-04
103			1.17E+00	7.02E-04	5.45E+00	3.27E-03	9.05E-06
7.45E+04			1.18E+03	7.06E-01	2.76E+04	1.65E+01	3.78E-03
1660			9.43E+01	5.66E-02	2.49E+02	1.50E-01	1.46E-04
76263	3.34E+01		1.27E+03	7.64E-01	2.78E+04	1.67E+01	3.93E-03
103			1.17E+00	7.02E-04	5.45E+00	3.27E-03	9.05E-06
3.14E+03			4.96E+01	2.98E-02	1.16E+03	6.97E-01	1.59E-04
70			3.98E+00	2.39E-03	1.05E+01	6.31E-03	6.15E-06
3313	1.42E+00		5.48E+01	3.29E-02	1.18E+03	7.07E-01	1.74E-04
174			9.88E+00	5.93E-03	2.61E+01	1.57E-02	1.53E-05
2.17E+03			3.43E+01	2.06E-02	8.03E+02	4.82E-01	1.10E-04
103			1.17E+00	7.02E-04	5.45E+00	3.27E-03	9.05E-06
2447	 1.26E+00 		4.53E+01	2.72E-02	8.34E+02	5.01E-01	1.34E-04

Accident Impacts

				Estimated number of accidents	Collision Fatalities (non-rad)
		person-rem	LCFs		
Aq Cs/Sr	150	1.42E-06	8.52E-10	1.33E-05	5.12E-06
	500	4.72E-06	2.83E-09	4.42E-05	1.71E-05
	1500	2.14E-05	1.28E-08	1.35E-04	5.19E-05
	2100	2.58E-05	1.55E-08	1.83E-04	7.03E-05
	3000	2.83E-05	1.70E-08	2.65E-04	1.02E-04
Aq FP	150	5.02E-07	3.01E-10	1.33E-05	5.12E-06
	500	1.67E-06	1.00E-09	4.42E-05	1.71E-05
	1500	5.01E-06	3.01E-09	1.35E-04	5.19E-05
	2100	7.01E-06	4.21E-09	1.83E-04	7.03E-05
	3000	1.00E-05	6.00E-09	2.65E-04	1.02E-04
Iodine	150	4.73E-14	2.84E-17		
	500	1.57E-13	9.42E-17		
	1500	4.71E-13	2.83E-16		
	2100	6.59E-13	3.95E-16		
	3000	9.42E-13	5.65E-16		
Aq Metal	150	7.18E-07	4.31E-10	1.33E-05	5.12E-06
	500	2.38E-06	1.43E-09	4.42E-05	1.71E-05
	1500	7.16E-06	4.30E-09	1.33E-04	5.12E-05
	2100	1.00E-05	6.02E-09	1.86E-04	7.03E-05
	3000	1.43E-05	8.58E-09	2.65E-04	1.02E-04
EC Assembly	150	2.16E-08	1.30E-11	1.33E-05	5.12E-06
	500	7.16E-08	4.30E-11	4.42E-05	1.71E-05
	1500	2.15E-07	1.29E-10	1.33E-04	5.12E-05
	2100	3.01E-07	1.81E-10	1.86E-04	7.03E-05
	3000	4.29E-07	2.57E-10	1.86E-04	1.02E-04
	150	2.51E-07	1.51E-10	1.33E-05	5.12E-06
	500	8.33E-07	5.00E-10	4.42E-05	1.71E-05
	1500	2.49E-06	1.49E-09	1.33E-04	5.12E-05
	2100	3.48E-06	2.09E-09	1.86E-04	7.03E-05

EC FP	3000	4.99E-06	2.99E-09	2.65E-04	1.02E-04
EC Metal	150	1.81E-08	1.09E-11	1.33E-05	5.12E-06
	500	6.00E-08	3.60E-11	4.42E-05	1.71E-05
	1500	1.80E-07	1.08E-10	1.33E-04	5.12E-05
	2100	2.52E-07	1.51E-10	1.86E-04	7.03E-05
	3000	3.60E-07	2.16E-10	2.65E-04	1.02E-04
UOx (Aqueous Product)	150	9.24E-12	5.54E-15	1.33E-05	5.12E-06
	500	3.07E-11	1.84E-14	4.42E-05	1.71E-05
	1500	9.83E-11	5.90E-14	1.33E-04	5.12E-05
	2100	1.38E-10	8.28E-14	1.86E-04	7.03E-05
	3000	1.84E-10	1.10E-13	2.65E-04	1.02E-04
UMet (Electrochem. Product)	150	3.68E-11	2.21E-14	1.33E-05	5.12E-06
	500	1.23E-10	7.38E-14	4.42E-05	1.71E-05
	1500	3.66E-10	2.20E-13	1.33E-04	5.12E-05
	2100	5.12E-10	3.07E-13	1.86E-04	7.03E-05
	3000	7.32E-10	4.39E-13	2.65E-04	1.02E-04
LWR SNF	150	9.43E-07	5.66E-10	1.33E-05	5.12E-06
	500	3.13E-06	1.88E-09	4.42E-05	1.71E-05
	1500	9.37E-06	5.62E-09	1.33E-04	5.12E-05
	2100	1.31E-05	7.86E-09	1.86E-04	7.03E-05
	3000	1.87E-05	1.12E-08	2.65E-04	1.02E-04
MOX Fuel SNF	150	3.14E-06	1.88E-09	1.33E-05	5.12E-06
	500	1.04E-05	6.24E-09	4.42E-05	1.71E-05
	1500	3.12E-05	1.87E-08	1.33E-04	5.12E-05
	2100	4.37E-05	2.62E-08	1.86E-04	7.03E-05
	3000	6.24E-05	3.74E-08	2.65E-04	1.02E-04
Thorium Cycle SNF	150	6.59E-08	3.95E-11	1.33E-05	5.12E-06
	500	2.24E-07	1.34E-10	4.42E-05	1.71E-05
	1500	6.63E-07	3.98E-10	1.33E-04	5.12E-05
	2100	9.21E-07	5.53E-10	1.86E-04	7.03E-05
	3000	1.33E-06	7.98E-10	2.65E-04	1.02E-04
HWR SNF	150	1.45E-07	8.70E-11	1.33E-05	5.12E-06
	500	4.84E-07	2.90E-10	4.42E-05	1.71E-05
	1500	1.45E-06	8.70E-10	1.33E-04	5.12E-05
	2100	2.03E-06	1.22E-09	1.86E-04	7.03E-05

	3000	2.93E-06	1.76E-09	2.65E-04	1.02E-04
HTGR SNF	150	9.45E-10	5.67E-13	1.33E-05	5.12E-06
	500	3.13E-09	1.88E-12	4.42E-05	1.71E-05
	1500	9.39E-09	5.63E-12	1.33E-04	5.12E-05
	2100	1.31E-08	7.86E-12	1.86E-04	7.03E-05
	3000	1.88E-08	1.13E-11	2.65E-04	1.02E-04
Fresh Fast Reactor Fuel	150	9.83E-08	5.90E-11	1.33E-05	5.12E-06
	500	3.27E-07	1.96E-10	4.42E-05	1.71E-05
	1500	9.81E-07	5.89E-10	1.33E-04	5.12E-05
	2100	1.37E-06	8.22E-10	1.86E-04	7.03E-05
	3000	1.96E-06	1.18E-09	2.65E-04	1.02E-04
Fast Reactor SNF	150	1.02E-04	6.12E-08	1.33E-05	5.12E-06
	500	3.40E-04	2.04E-07	4.42E-05	1.71E-05
	1500	1.02E-03	6.12E-07	1.33E-04	5.12E-05
	2100	1.46E-03	8.76E-07	1.86E-04	7.03E-05
	3000	2.04E-03	1.22E-06	2.65E-04	1.02E-04
GTCC	150	1.33E-05	7.98E-09	1.33E-05	5.12E-06
	500	4.42E-05	2.65E-08	4.42E-05	1.71E-05
	1500	1.33E-04	7.98E-08	1.33E-04	5.12E-05
	2100	1.86E-04	1.12E-07	1.86E-04	7.03E-05
	3000	2.65E-04	1.59E-07	2.65E-04	1.02E-04
LLW	150			1.33E-05	5.12E-06
	500			4.42E-05	1.71E-05
	1500			1.33E-04	5.12E-05
	2100			1.86E-04	7.03E-05
	3000			2.65E-04	1.02E-04

				Estimated number of accidents	Collision Fatalities (non-rad)
	person-rem	LCFs			
	1.36E-03	8.17E-07		1.93E-02	7.31E-03
				2.13E+00	1.12E-01
	5.26E-01	3.15E-04	6.70E-02	2.53E-02	
	3.13E-02	1.88E-05	2.95E+00	1.54E-01	
	1.86E-03	1.11E-06	1.32E-02	5.06E-03	
	2.17E-03	1.30E-06	4.02E-02	1.52E-02	
	1.09E-03	6.56E-07	2.85E-02	1.10E-02	
	1.29E-01	7.75E-05	1.29E-01	4.88E-02	
	0.00E+00	0.00E+00	1.13E-01	4.25E-02	
	9.94E-09	5.96E-12	1.34E-02	5.06E-03	
	3.99E-08	2.40E-11	1.45E-02	5.48E-03	
	6.92E-01	4.15E-04	5.52E+00	4.32E-01	4.33E-01
	3.98E-03	2.39E-06	1.69E-02	6.40E-03	
	3.94E-01	2.37E-04	5.02E-02	1.90E-02	
	1.88E-02	1.13E-05	2.21E+00	1.16E-01	
	3.35E-07	2.01E-10	3.69E+00	1.93E-01	
	1.86E-03	1.11E-06	1.32E-02	5.06E-03	
	2.14E-03	1.28E-06	3.96E-02	1.50E-02	
	1.08E-03	6.48E-07	2.82E-02	1.08E-02	
	1.24E-01	7.45E-05	1.24E-01	4.70E-02	
	0.00E+00	0.00E+00	1.03E-01	3.89E-02	
	2.97E-08	1.78E-11	1.08E-02	4.08E-03	
	5.46E-01	3.28E-04	6.29E+00	4.55E-01	4.55E-01
	6.47E-03	3.88E-06	2.75E-02	1.04E-02	
	5.44E-07	3.26E-10	5.99E+00	3.13E-01	

2.06E-03	1.23E-06	3.81E-02	1.44E-02	
1.04E-03	6.22E-07	2.71E-02	1.04E-02	
1.26E-01	7.57E-05	1.26E-01	4.77E-02	
0.00E+00	0.00E+00	8.24E-02	3.11E-02	
1.36E-01	8.14E-05	6.29E+00	4.27E-01	4.27E-01
1.89E-03	1.13E-06	2.68E-02	1.01E-02	
		2.95E+00	1.54E-01	
1.89E-03	1.13E-06	3.50E-02	1.32E-02	
9.53E-04	5.72E-07	2.49E-02	9.56E-03	
2.23E-03	1.34E-06	2.23E-03	8.44E-04	
0.00E+00	0.00E+00	1.92E-02	7.24E-03	
1.38E-08	8.28E-12	1.86E-02	7.03E-03	
		3.74E+00	1.96E-01	
1.04E-04	6.21E-08	9.49E-03	3.59E-03	
7.06E-03	4.24E-06	6.83E+00	4.02E-01	4.02E-01
0.00E+00	0.00E+00	1.92E-02	7.24E-03	
		1.10E+01	5.76E-01	
3.02E-04	1.81E-07	2.77E-02	1.05E-02	
3.02E-04	1.81E-07	1.11E+01	5.93E-01	5.93E-01
0.00E+00	0.00E+00	1.92E-02	7.24E-03	
1.11E-05	6.66E-09	1.22E+02	6.39E+00	
2.17E-05	1.30E-08	3.09E-01	1.17E-01	
3.28E-05	1.97E-08	1.23E+02	6.52E+00	6.52E+00
0.00E+00	0.00E+00	1.92E-02	7.24E-03	
		5.15E+00	2.69E-01	
6.45E-05	3.87E-08	1.30E-02	4.92E-03	
6.45E-05	3.87E-08	5.18E+00	2.82E-01	2.82E-01
2.28E-03	1.37E-06	3.24E-02	1.22E-02	
		3.56E+00	1.86E-01	
0.00E+00	0.00E+00	1.92E-02	7.24E-03	
2.28E-03	1.37E-06	3.61E+00	2.06E-01	2.06E-01

Loading/Inspection Impacts

	Handling Impacts											Escort Impacts			
	Loading			Inspection		Truck Stop			Nearby Residents						
	Mileage	person-rem	LCFs	Person-Rem	LCFs	person-rem	LCFs	Person-Rem	LCFs	Person-Rem	LCFs				
Aq Cs/Sr	150	8.21E-01	4.93E-04	2.05E-02	1.23E-05	2.98E-07	1.79E-10	4.02E-06	2.41E-09	1.41E-05	8.47E-09				
	500	8.21E-01	4.93E-04	2.05E-02	1.23E-05	9.97E-07	5.98E-10	1.34E-05	8.04E-09	4.69E-05	2.81E-08				
	1500	8.21E-01	4.93E-04	2.05E-02	1.23E-05	2.98E-06	1.79E-09	4.02E-05	2.41E-08	1.41E-04	8.44E-08				
	2100	8.21E-01	4.93E-04	2.05E-02	1.23E-05	4.17E-06	2.50E-09	5.63E-05	3.38E-08	1.97E-04	1.18E-07				
	3000	8.21E-01	4.93E-04	2.05E-02	1.23E-05	5.97E-06	3.58E-09	8.04E-05	4.82E-08	2.81E-04	1.69E-07				
Aq FP	150	3.26E-01	1.96E-04	1.63E-02	9.78E-06	3.00E-07	1.80E-10	4.17E-06	2.50E-09						
	500	3.26E-01	1.96E-04	1.63E-02	9.78E-06	1.00E-06	6.00E-10	1.39E-05	8.34E-09						
	1500	3.26E-01	1.96E-04	1.63E-02	9.78E-06	3.00E-06	1.80E-09	4.17E-05	2.50E-08						
	2100	3.26E-01	1.96E-04	1.63E-02	9.78E-06	4.20E-06	2.52E-09	5.84E-05	3.50E-08						
	3000	3.26E-01	1.96E-04	1.63E-02	9.78E-06	6.01E-06	3.61E-09	8.34E-05	5.00E-08						
Aq Metal	150	3.25E-01	1.95E-04	1.62E-02	9.72E-06	2.98E-07	1.79E-10	4.02E-06	2.41E-09						
	500	3.25E-01	1.95E-04	1.62E-02	9.72E-06	9.97E-07	5.98E-10	1.34E-05	8.04E-09						
	1500	3.25E-01	1.95E-04	1.62E-02	9.72E-06	2.98E-06	1.79E-09	4.02E-05	2.41E-08						
	2100	3.25E-01	1.95E-04	1.62E-02	9.72E-06	4.12E-06	2.47E-09	5.63E-05	3.38E-08						
	3000	3.25E-01	1.95E-04	1.62E-02	9.72E-06	5.96E-06	3.58E-09	8.04E-05	4.82E-08						
Aq Iodine	150	7.75E-02	4.65E-05	3.38E-03	2.03E-06	1.29E-07	7.74E-11	1.74E-06	1.04E-09						
	500	7.75E-02	4.65E-05	3.38E-03	2.03E-06	4.31E-07	2.59E-10	5.81E-06	3.49E-09						
	1500	7.75E-02	4.65E-05	3.38E-03	2.03E-06	1.29E-06	7.74E-10	1.74E-05	1.04E-08						
	2100	7.75E-02	4.65E-05	3.38E-03	2.03E-06	1.81E-06	1.09E-09	2.44E-05	1.46E-08						
	3000	7.75E-02	4.65E-05	3.38E-03	2.03E-06	2.58E-06	1.55E-09	3.48E-05	2.09E-08						
EC Assembly	150	2.90E-01	1.74E-04	1.45E-02	8.70E-06	2.98E-07	1.79E-10	4.02E-06	2.41E-09						
	500	2.90E-01	1.74E-04	1.45E-02	8.70E-06	9.97E-07	5.98E-10	1.34E-05	8.04E-09						
	1500	2.90E-01	1.74E-04	1.45E-02	8.70E-06	2.98E-06	1.79E-09	4.02E-05	2.41E-08						
	2100	2.90E-01	1.74E-04	1.45E-02	8.70E-06	4.17E-06	2.50E-09	5.63E-05	3.38E-08						
	3000	2.90E-01	1.74E-04	1.45E-02	8.70E-06	5.97E-06	3.58E-09	8.04E-05	4.82E-08						
EC FP	150	2.90E-01	1.74E-04	1.45E-02	8.70E-06	2.98E-07	1.79E-10	4.02E-06	2.41E-09						
	500	2.90E-01	1.74E-04	1.45E-02	8.70E-06	9.97E-07	5.98E-10	1.34E-05	8.04E-09						
	1500	2.90E-01	1.74E-04	1.45E-02	8.70E-06	2.98E-06	1.79E-09	4.02E-05	2.41E-08						
	2100	2.90E-01	1.74E-04	1.45E-02	8.70E-06	4.17E-06	2.50E-09	5.63E-05	3.38E-08						
	3000	2.90E-01	1.74E-04	1.45E-02	8.70E-06	5.97E-06	3.58E-09	8.04E-05	4.82E-08						
EC Metal	150	2.90E-01	1.74E-04	1.45E-02	8.70E-06	2.98E-07	1.79E-10	4.02E-06	2.41E-09						
	500	2.90E-01	1.74E-04	1.45E-02	8.70E-06	9.97E-07	5.98E-10	1.34E-05	8.04E-09						
	1500	2.90E-01	1.74E-04	1.45E-02	8.70E-06	2.98E-06	1.79E-09	4.02E-05	2.41E-08						
	2100	2.90E-01	1.74E-04	1.45E-02	8.70E-06	4.17E-06	2.50E-09	5.63E-05	3.38E-08						
	3000	2.90E-01	1.74E-04	1.45E-02	8.70E-06	5.97E-06	3.58E-09	8.04E-05	4.82E-08						
Fast Reactor Fresh	150	8.36E-01	5.02E-04	2.09E-02	1.25E-05	3.02E-07	1.81E-10	4.32E-06	2.59E-09	1.41E-05	8.47E-09				
	500	8.36E-01	5.02E-04	2.09E-02	1.25E-05	1.01E-06	6.06E-10	1.44E-07	8.64E-11	4.69E-05	2.81E-08				
	1500	8.36E-01	5.02E-04	2.09E-02	1.25E-05	3.02E-06	1.81E-09	4.32E-05	2.59E-08	1.41E-04	8.44E-08				
	2100	8.36E-01	5.02E-04	2.09E-02	1.25E-05	4.23E-06	2.54E-09	6.05E-05	3.63E-08	1.97E-04	1.18E-07				
	3000	8.36E-01	5.02E-04	2.09E-02	1.25E-05	6.05E-06	3.63E-09	8.65E-05	5.19E-08	2.81E-04	1.69E-07				
	150	4.32E-01	2.59E-04	7.38E-02	4.43E-05	3.06E-07	1.84E-10	4.63E-06	2.78E-09	1.41E-05	8.47E-09				
	500	4.32E-01	2.59E-04	7.38E-02	4.43E-05	1.02E-06	6.12E-10	1.55E-05	9.30E-09	4.69E-05	2.81E-08				

Fast Reactor Spent	1500	4.32E-01	2.59E-04	7.38E-02	4.43E-05	3.06E-06	1.84E-09	4.63E-05	2.78E-08	1.41E-04	8.44E-08
	2100	4.32E-01	2.59E-04	7.38E-02	4.43E-05	4.28E-06	2.57E-09	6.48E-05	3.89E-08	1.97E-04	1.18E-07
	3000	4.32E-01	2.59E-04	7.38E-02	4.43E-05	6.13E-06	3.68E-09	9.26E-05	5.56E-08	2.81E-04	1.69E-07
UO ₂ (Aqueous Product)	150	1.54E-01	9.24E-05	6.41E-02	3.85E-05	1.29E-07	7.74E-11	1.74E-06	1.04E-09	1.41E-05	8.47E-09
	500	1.54E-01	9.24E-05	6.41E-02	3.85E-05	4.31E-07	2.59E-10	5.81E-06	3.49E-09	4.69E-05	2.81E-08
	1500	1.54E-01	9.24E-05	6.41E-02	3.85E-05	1.29E-06	7.74E-10	1.74E-05	1.04E-08	1.41E-04	8.44E-08
	2100	1.54E-01	9.24E-05	6.41E-02	3.85E-05	1.81E-06	1.09E-09	2.44E-05	1.46E-08	1.97E-04	1.18E-07
	3000	1.54E-01	9.24E-05	6.41E-02	3.85E-05	2.58E-06	1.55E-09	3.48E-05	2.09E-08	2.81E-04	1.69E-07
UMet (Electrochem. Product)	150	1.03E-01	6.18E-05	4.61E-02	2.77E-05	1.29E-07	7.74E-11	1.74E-06	1.04E-09	1.41E-05	8.47E-09
	500	1.03E-01	6.18E-05	4.61E-02	2.77E-05	4.31E-07	2.59E-10	5.81E-06	3.49E-09	4.69E-05	2.81E-08
	1500	1.03E-01	6.18E-05	4.61E-02	2.77E-05	1.29E-06	7.74E-10	1.74E-05	1.04E-08	1.41E-04	8.44E-08
	2100	1.03E-01	6.18E-05	4.61E-02	2.77E-05	1.81E-06	1.09E-09	2.44E-05	1.46E-08	1.97E-04	1.18E-07
	3000	1.03E-01	6.18E-05	4.61E-02	2.77E-05	2.58E-06	1.55E-09	3.48E-05	2.09E-08	2.81E-04	1.69E-07
LWR SNF	150	4.32E-01	2.59E-04	7.38E-02	4.43E-05	3.06E-07	1.84E-10	4.63E-06	2.78E-09	1.41E-05	8.47E-09
	500	4.32E-01	2.59E-04	7.38E-02	4.43E-05	1.02E-06	6.12E-10	1.55E-05	9.30E-09	4.69E-05	2.81E-08
	1500	4.32E-01	2.59E-04	7.38E-02	4.43E-05	3.06E-06	1.84E-09	4.63E-05	2.78E-08	1.41E-04	8.44E-08
	2100	4.32E-01	2.59E-04	7.38E-02	4.43E-05	4.28E-06	2.57E-09	6.48E-05	3.89E-08	1.97E-04	1.18E-07
	3000	4.32E-01	2.59E-04	7.38E-02	4.43E-05	6.13E-06	3.68E-09	9.26E-05	5.56E-08	2.81E-04	1.69E-07
Thorium SNF	150	4.32E-01	2.59E-04	7.38E-02	4.43E-05	3.06E-07	1.84E-10	4.63E-06	2.78E-09	1.41E-05	8.47E-09
	500	4.32E-01	2.59E-04	7.38E-02	4.43E-05	1.02E-06	6.12E-10	1.55E-05	9.30E-09	4.69E-05	2.81E-08
	1500	4.32E-01	2.59E-04	7.38E-02	4.43E-05	3.06E-06	1.84E-09	4.63E-05	2.78E-08	1.41E-04	8.44E-08
	2100	4.32E-01	2.59E-04	7.38E-02	4.43E-05	4.28E-06	2.57E-09	6.48E-05	3.89E-08	1.97E-04	1.18E-07
	3000	4.32E-01	2.59E-04	7.38E-02	4.43E-05	6.13E-06	3.68E-09	9.26E-05	5.56E-08	2.81E-04	1.69E-07
HWR SNF	150	4.32E-01	2.59E-04	7.38E-02	4.43E-05	3.06E-07	1.84E-10	4.63E-06	2.78E-09	1.41E-05	8.47E-09
	500	4.32E-01	2.59E-04	7.38E-02	4.43E-05	1.02E-06	6.12E-10	1.55E-05	9.30E-09	4.69E-05	2.81E-08
	1500	4.32E-01	2.59E-04	7.38E-02	4.43E-05	3.06E-06	1.84E-09	4.63E-05	2.78E-08	1.41E-04	8.44E-08
	2100	4.32E-01	2.59E-04	7.38E-02	4.43E-05	4.28E-06	2.57E-09	6.48E-05	3.89E-08	1.97E-04	1.18E-07
	3000	4.32E-01	2.59E-04	7.38E-02	4.43E-05	6.13E-06	3.68E-09	9.26E-05	5.56E-08	2.81E-04	1.69E-07
HTGR SNF	150	4.32E-01	2.59E-04	7.38E-02	4.43E-05	3.06E-07	1.84E-10	4.63E-06	2.78E-09	1.41E-05	8.47E-09
	500	4.32E-01	2.59E-04	7.38E-02	4.43E-05	1.02E-06	6.12E-10	1.55E-05	9.30E-09	4.69E-05	2.81E-08
	1500	4.32E-01	2.59E-04	7.38E-02	4.43E-05	3.06E-06	1.84E-09	4.63E-05	2.78E-08	1.41E-04	8.44E-08
	2100	4.32E-01	2.59E-04	7.38E-02	4.43E-05	4.28E-06	2.57E-09	6.48E-05	3.89E-08	1.97E-04	1.18E-07
	3000	4.32E-01	2.59E-04	7.38E-02	4.43E-05	6.13E-06	3.68E-09	9.26E-05	5.56E-08	2.81E-04	1.69E-07
Trans fuel	150	2.40E-01	1.44E-04	4.10E-02	2.46E-05	1.70E-07	1.02E-10	2.57E-06	1.54E-09	7.05E-06	4.23E-09
	500	2.40E-01	1.44E-04	4.10E-02	2.46E-05	5.67E-07	3.40E-10	8.61E-06	5.17E-09	2.35E-05	1.41E-08
	1500	2.40E-01	1.44E-04	4.10E-02	2.46E-05	1.70E-06	1.02E-09	2.57E-05	1.54E-08	7.05E-05	4.23E-08
	2100	2.40E-01	1.44E-04	4.10E-02	2.46E-05	2.38E-06	1.43E-09	3.60E-05	2.16E-08	9.85E-05	5.91E-08
	3000	2.40E-01	1.44E-04	4.10E-02	2.46E-05	3.41E-06	2.04E-09	5.14E-05	3.09E-08	1.41E-04	8.43E-08
Fresh MOX	150	2.40E-01	1.44E-04	4.10E-02	2.46E-05	1.70E-07	1.02E-10	2.57E-06	1.54E-09	7.05E-06	4.23E-09
	500	2.40E-01	1.44E-04	4.10E-02	2.46E-05	5.67E-07	3.40E-10	8.61E-06	5.17E-09	2.35E-05	1.41E-08
	1500	2.40E-01	1.44E-04	4.10E-02	2.46E-05	1.70E-06	1.02E-09	2.57E-05	1.54E-08	7.05E-05	4.23E-08
	2100	2.40E-01	1.44E-04	4.10E-02	2.46E-05	2.38E-06	1.43E-09	3.60E-05	2.16E-08	9.85E-05	5.91E-08
	3000	2.40E-01	1.44E-04	4.10E-02	2.46E-05	3.41E-06	2.04E-09	5.14E-05	3.09E-08	1.41E-04	8.43E-08
GTCC	150	1.25E-01	7.50E-05	6.25E-03	3.75E-06	1.29E-07	7.74E-11	1.74E-06	1.04E-09	1.41E-05	8.47E-09
	500	1.25E-01	7.50E-05	6.25E-03	3.75E-06	4.31E-07	2.59E-10	5.81E-06	3.49E-09	4.69E-05	2.81E-08
	1500	1.25E-01	7.50E-05	6.25E-03	3.75E-06	1.29E-06	7.74E-10	1.74E-05	1.04E-08	1.41E-04	8.44E-08
	2100	1.25E-01	7.50E-05	6.25E-03	3.75E-06	1.81E-06	1.09E-09	2.44E-05	1.46E-08	1.97E-04	1.18E-07
	3000	1.25E-01	7.50E-05	6.25E-03	3.75E-06	2.58E-06	1.55E-09	3.48E-05	2.09E-08	2.81E-04	1.69E-07

	150	4.32E-01	2.59E-04	7.38E-02	4.43E-05	3.06E-07	1.84E-10	4.63E-06	2.78E-09	1.41E-05	8.47E-09
MOX	500	4.32E-01	2.59E-04	7.38E-02	4.43E-05	1.02E-06	6.12E-10	1.55E-05	9.30E-09	4.69E-05	2.81E-08
	1500	4.32E-01	2.59E-04	7.38E-02	4.43E-05	3.06E-06	1.84E-09	4.63E-05	2.78E-08	1.41E-04	8.44E-08
	2100	4.32E-01	2.59E-04	7.38E-02	4.43E-05	4.28E-06	2.57E-09	6.48E-05	3.89E-08	1.97E-04	1.18E-07
	3000	4.32E-01	2.59E-04	7.38E-02	4.43E-05	6.13E-06	3.68E-09	9.26E-05	5.56E-08	2.81E-04	1.69E-07
	150	8.47E-02	5.08E-05	2.52E-02	1.51E-05	5.16E-08	3.10E-11	6.95E-07	4.17E-10	1.41E-05	8.47E-09
LLW	500	8.47E-02	5.08E-05	2.52E-02	1.51E-05	1.73E-07	1.04E-10	2.32E-06	1.39E-09	4.69E-05	2.81E-08
	1500	8.47E-02	5.08E-05	2.52E-02	1.51E-05	5.16E-07	3.10E-10	6.59E-06	3.95E-09	1.41E-04	8.44E-08
	2100	8.47E-02	5.08E-05	2.52E-02	1.51E-05	7.22E-07	3.10E-10	9.23E-06	3.95E-09	1.97E-04	1.18E-07
	3000	8.47E-02	5.08E-05	2.52E-02	1.51E-05	1.03E-06	6.18E-10	1.39E-05	8.34E-09	2.81E-04	1.69E-07

	Mileage	Handling Impacts				Impacts at Stops				Escort Impacts		
		Loading		Inspection		Truck Stop		Nearby Residents				
		person-rem	LCFs	Person-Rem	LCFs	person-rem	LCFs	Person-Rem	LCFs	Person-Rem	LCFs	
LWR	5.62E+02	3.37E-01	9.59E+01	5.76E-02	5.56E-03	3.34E-06	8.42E-02	5.05E-05	2.56E-01	1.53E-04	1.30E+03	TOTAL LCFS incident-free
fresh lwr	3.12E+02	1.87E-01	5.33E+01	3.20E-02	3.09E-03	1.85E-06	4.68E-02	2.81E-05	1.28E-01	7.68E-05	1.30E+03	
fast spent	7.78E+02	4.67E-01	1.33E+02	7.97E-02	7.70E-03	4.62E-06	1.17E-01	7.00E-05	3.55E-01	2.12E-04	1.80E+03	
trans	7.78E+02	4.67E-01	1.33E+02	7.97E-02	7.70E-03	4.62E-06	1.17E-01	7.00E-05	3.55E-01	2.12E-04	1.80E+03	
Cs	2.96E+02	1.77E-01	7.38E+00	4.43E-03	1.50E-03	9.01E-07	2.03E-02	1.22E-05	7.09E-02	4.26E-05	3.60E+02	
met	3.51E+02	2.11E-01	1.75E+01	1.05E-02	4.45E-03	2.67E-06	6.08E-02	3.65E-05	0.00E+00	0.00E+00	1.08E+03	
fp	2.54E+02	1.53E-01	1.27E+01	7.63E-03	3.28E-03	1.97E-06	4.56E-02	2.73E-05	0.00E+00	0.00E+00	7.80E+02	
gtcc	4.34E+02	2.60E-01	2.17E+01	1.30E-02	6.28E-03	3.77E-06	8.47E-02	5.08E-05	6.84E-01	4.09E-04	3.47E+03	
llw	2.57E+02	1.54E-01	7.64E+01	4.58E-02	2.19E-03	9.38E-07	2.80E-02	1.20E-05	5.97E-01	3.58E-04	3.03E+03	
uox	5.54E+01	3.33E-02	2.31E+01	1.38E-02	6.52E-04	3.91E-07	8.78E-03	5.27E-06	7.09E-02	4.25E-05	3.60E+02	
umet	6.01E+01	3.60E-02	2.50E+01	1.50E-02	7.06E-04	4.24E-07	9.52E-03	5.71E-06	7.68E-02	4.60E-05	3.90E+02	
TOTAL (AllFast)	4.14E+03	2.48E+00	5.99E+02	3.59E-01	4.31E-02	2.55E-05	6.22E-01	3.68E-04	2.59E+00	1.55E-03	1.57E+04	9.09E+00
MOX	1.78E+03	1.07E+00	3.03E+02	1.82E-01	1.76E-02	1.06E-05	2.66E-01	1.60E-04	8.10E-01	4.85E-04	4.11E+03	1.03E+01
Spent fast	5.83E+02	3.50E-01	9.96E+01	5.98E-02	5.78E-03	3.47E-06	8.75E-02	5.25E-05	2.66E-01	1.59E-04	1.35E+03	
trans fuel	3.24E+02	1.94E-01	5.54E+01	3.32E-02	3.21E-03	1.93E-06	4.86E-02	2.92E-05	1.33E-01	7.98E-05	1.35E+03	
fresh MOX	5.40E+02	3.24E-01	9.23E+01	5.54E-02	5.35E-03	3.21E-06	8.10E-02	4.86E-05	2.22E-01	1.33E-04	2.25E+03	
cs	2.96E+02	1.77E-01	7.38E+00	4.43E-03	1.50E-03	9.01E-07	2.03E-02	1.22E-05	7.09E-02	4.26E-05	3.60E+02	
met	3.45E+02	2.07E-01	1.72E+01	1.03E-02	4.38E-03	2.63E-06	5.98E-02	3.59E-05	0.00E+00	0.00E+00	1.06E+03	
fp	2.50E+02	1.50E-01	1.25E+01	7.50E-03	3.22E-03	1.93E-06	4.48E-02	2.69E-05	0.00E+00	0.00E+00	7.67E+02	
gtcc	4.18E+02	2.51E-01	2.09E+01	1.25E-02	6.05E-03	3.63E-06	8.15E-02	4.89E-05	6.58E-01	3.94E-04	3.34E+03	
llw	2.34E+02	1.40E-01	6.96E+01	4.17E-02	1.99E-03	8.54E-07	2.55E-02	1.09E-05	5.44E-01	3.26E-04	2.76E+03	
umet	3.01E+01	1.80E-02	1.35E+01	8.09E-03	5.29E-04	3.17E-07	7.12E-03	4.27E-06	5.75E-02	3.45E-05	2.92E+02	
TOT (therm/fast)	4.80E+03	2.88E+00	6.92E+02	4.15E-01	4.96E-02	2.94E-05	7.22E-01	4.29E-04	2.76E+00	1.65E-03	1.76E+04	
MOX	2.88E+03	1.73E+00	4.92E+02	2.95E-01	2.85E-02	1.71E-05	4.32E-01	2.59E-04	1.31E+00	7.87E-04	6.67E+03	1.07E+01
fresh MOX	8.76E+02	5.26E-01	1.50E+02	8.98E-02	8.68E-03	5.21E-06	1.31E-01	7.88E-05	3.60E-01	2.16E-04	3.65E+03	
met	3.32E+02	1.99E-01	1.66E+01	9.93E-03	4.21E-03	2.53E-06	5.75E-02	3.45E-05	0.00E+00	0.00E+00	1.02E+03	
fp	2.41E+02	1.44E-01	1.20E+01	7.22E-03	3.10E-03	1.86E-06	4.31E-02	2.59E-05	0.00E+00	0.00E+00	7.38E+02	
gtcc	4.24E+02	2.54E-01	2.12E+01	1.27E-02	6.14E-03	3.68E-06	8.27E-02	4.96E-05	6.68E-01	4.00E-04	3.39E+03	
llw	1.88E+02	1.13E-01	5.59E+01	3.36E-02	1.60E-03	6.87E-07	2.05E-02	8.78E-06	4.37E-01	2.62E-04	2.22E+03	
Therm Opt I	4.94E+03	2.97E+00	7.48E+02	4.49E-01	5.23E-02	3.11E-05	7.67E-01	4.57E-04	2.78E+00	1.66E-03	1.77E+04	
LWR	7.78E+02	4.67E-01	1.33E+02	7.97E-02	7.70E-03	4.62E-06	1.17E-01	7.00E-05	3.55E-01	2.12E-04	1.80E+03	6.96E+00
fresh lwr	4.32E+02	2.59E-01	7.38E+01	4.43E-02	4.28E-03	2.57E-06	6.48E-02	3.89E-05	1.77E-01	1.06E-04	1.80E+03	
met	3.06E+02	1.83E-01	1.52E+01	9.14E-03	3.87E-03	2.32E-06	5.29E-02	3.18E-05	0.00E+00	0.00E+00	9.40E+02	
fp	2.22E+02	1.33E-01	1.11E+01	6.65E-03	2.86E-03	1.71E-06	3.97E-02	2.38E-05	0.00E+00	0.00E+00	6.80E+02	
gtcc	7.63E+00	4.58E-03	3.81E-01	2.29E-04	1.10E-04	6.62E-08	1.49E-03	8.93E-07	1.20E-02	7.20E-06	6.10E+01	
LLW	4.37E+01	2.62E-02	1.30E+01	7.80E-03	3.73E-04	1.60E-07	4.76E-03	2.04E-06	1.02E-01	6.09E-05	5.16E+02	
uox	7.67E+01	4.60E-02	3.19E+01	1.92E-02	9.01E-04	5.41E-07	1.22E-02	7.29E-06	9.81E-02	5.88E-05	4.98E+02	
fresh hwr	5.47E+02	3.28E-01	9.35E+01	5.61E-02	5.42E-03	3.25E-06	8.21E-02	4.92E-05	2.25E-01	1.35E-04	2.28E+03	
hwr snf	9.85E+02	5.91E-01	1.68E+02	1.01E-01	9.76E-03	5.86E-06	1.48E-01	8.86E-05	4.49E-01	2.69E-04	2.28E+03	
Therm Opt II	3.40E+03	2.04E+00	5.40E+02	3.24E-01	3.53E-02	2.11E-05	5.22E-01	3.13E-04	1.42E+00	8.49E-04	1.09E+04	

Ilw	4.37E+01	2.62E-02	1.30E+01	7.80E-03	3.73E-04	1.60E-07	4.76E-03	2.04E-06	1.02E-01	6.09E-05	5.16E+02		
Thor fresh	7.54E+02	4.52E-01	1.29E+02	7.72E-02	7.47E-03	4.48E-06	1.13E-01	6.78E-05	3.09E-01	1.86E-04	3.14E+03		
thor snf	1.36E+03	8.14E-01	2.32E+02	1.39E-01	1.34E-02	8.06E-06	2.03E-01	1.22E-04	6.19E-01	3.71E-04	3.14E+03		
Thorium	2.15E+03	1.29E+00	3.73E+02	2.24E-01	2.13E-02	1.27E-05	3.21E-01	1.92E-04	1.03E+00	6.17E-04	6.80E+03		4.21E+00
Ilw	4.37E+01	2.62E-02	1.30E+01	7.80E-03	3.73E-04	1.60E-07	4.76E-03	2.04E-06	1.02E-01	6.09E-05	5.16E+02		
hwr fresh	1.61E+03	9.66E-01	2.75E+02	1.65E-01	1.60E-02	9.57E-06	2.42E-01	1.45E-04	6.61E-01	3.97E-04	6.71E+03		
hwr snf	2.90E+03	1.74E+00	4.95E+02	2.97E-01	2.87E-02	1.72E-05	4.35E-01	2.61E-04	1.32E+00	7.92E-04	6.71E+03		
All HWR	4.55E+03	2.73E+00	7.83E+02	4.70E-01	4.50E-02	2.70E-05	6.81E-01	4.08E-04	2.08E+00	1.25E-03	1.39E+04		8.90E+00
Ilw	4.37E+01	2.62E-02	1.30E+01	7.80E-03	3.73E-04	1.60E-07	4.76E-03	2.04E-06	1.02E-01	6.09E-05	5.16E+02		
htgr fresh	1.79E+04	1.07E+01	3.05E+03	1.83E+00	1.77E-01	1.06E-04	2.68E+00	1.61E-03	7.34E+00	4.40E-03	7.45E+04		
htgr snf	3.22E+04	1.93E+01	5.50E+03	3.30E+00	3.19E-01	1.91E-04	4.83E+00	2.90E-03	1.47E+01	8.79E-03	7.45E+04		
All HTGR	5.01E+04	3.01E+01	8.57E+03	5.14E+00	4.96E-01	2.98E-04	7.51E+00	4.51E-03	2.21E+01	1.33E-02	1.50E+05		9.81E+01
LWR	9.37E+02	5.62E-01	1.60E+02	9.61E-02	9.29E-03	5.57E-06	1.41E-01	8.44E-05	4.27E-01	2.56E-04	2.17E+03		
fresh lwr	5.21E+02	3.12E-01	8.90E+01	5.34E-02	5.16E-03	3.10E-06	7.81E-02	4.69E-05	2.14E-01	1.28E-04	2.17E+03		
Ilw	4.37E+01	2.62E-02	1.30E+01	7.80E-03	3.73E-04	1.60E-07	4.76E-03	2.04E-06	1.02E-01	6.09E-05	5.16E+02		
NO ACTION	1.50E+03	9.01E-01	2.62E+02	1.57E-01	1.48E-02	8.83E-06	2.23E-01	1.33E-04	7.43E-01	4.45E-04	4.86E+03		2.93E+00

In-Transit Incident-Free Impacts

		Crew Impacts		Impacts to Public		
	Mileage	Person-Rem	LCFs	Person-Rem	LCFs	Non-Radiological Emission Fatalities
Aq Cs/Sr	150	1.12E-02	6.72E-06	5.88E-02	3.53E-05	3.62E-09
	500	3.73E-02	2.24E-05	1.96E-01	1.17E-04	1.21E-08
	1500	1.12E-01	6.72E-05	5.87E-01	3.52E-04	3.62E-08
	2100	1.57E-01	9.42E-05	8.22E-01	4.93E-04	5.07E-08
	3000	2.24E-01	1.34E-04	1.17E+00	7.04E-04	7.24E-08
Aq FP	150	3.98E-03	2.39E-06	5.93E-02	3.56E-05	3.62E-09
	500	1.03E-02	6.18E-06	1.97E-01	1.18E-04	1.21E-08
	1500	3.08E-02	1.85E-05	5.93E-01	3.56E-04	3.62E-08
	2100	4.20E-02	2.52E-05	8.08E-01	4.85E-04	5.07E-08
	3000	6.15E-02	3.69E-05	1.19E+00	7.14E-04	7.24E-08
Aq Metal	150	1.51E-02	9.06E-06	5.88E-02	3.53E-05	3.62E-09
	500	5.04E-02	3.02E-05	1.96E-01	1.18E-04	1.21E-08
	1500	1.51E-01	9.06E-05	5.87E-01	3.52E-04	3.62E-08
	2100	2.11E-01	1.27E-04	8.22E-01	4.93E-04	5.07E-08
	3000	3.03E-01	1.82E-04	1.17E+00	7.02E-04	7.24E-08
Aq Iodine	150	8.00E-03	4.80E-06	2.54E-02	1.52E-05	3.62E-09
	500	2.66E-02	1.60E-05	8.46E-02	5.08E-05	1.21E-08
	1500	7.99E-02	4.79E-05	2.54E-01	1.52E-04	3.62E-08
	2100	1.12E-01	6.72E-05	3.56E-01	2.14E-04	5.07E-08
	3000	1.60E-01	9.60E-05	5.07E-01	3.04E-04	7.24E-08
EC Assembly	150	3.05E-03	1.83E-06	1.42E-01	8.52E-05	3.62E-09
	500	1.02E-02	6.12E-06	4.71E-01	2.83E-04	1.21E-08
	1500	3.05E-02	1.83E-05	1.42E+00	8.52E-04	3.62E-08
	2100	4.27E-02	2.56E-05	1.99E+00	1.19E-03	5.07E-08
	3000	6.10E-02	3.66E-05	2.82E+00	1.69E-03	7.24E-08
EC FP	150	3.05E-03	1.83E-06	1.42E-01	8.52E-05	3.62E-09
	500	1.02E-02	6.12E-06	4.71E-01	2.83E-04	1.21E-08
	1500	3.05E-02	1.83E-05	1.42E+00	8.52E-04	3.62E-08
	2100	4.27E-02	2.56E-05	1.99E+00	1.19E-03	5.07E-08
	3000	6.10E-02	3.66E-05	2.82E+00	1.69E-03	7.24E-08
EC Metal	150	3.05E-03	1.83E-06	1.42E-01	8.52E-05	3.62E-09
	500	1.02E-02	6.12E-06	4.71E-01	2.83E-04	1.21E-08
	1500	3.05E-02	1.83E-05	1.42E+00	8.52E-04	3.62E-08
	2100	4.27E-02	2.56E-05	1.99E+00	1.19E-03	5.07E-08
	3000	6.10E-02	3.66E-05	2.82E+00	1.69E-03	7.24E-08
Fast Reactor Fresh	150	1.51E-02	9.06E-06	5.98E-02	3.59E-05	3.62E-09
	500	5.04E-02	3.02E-05	1.99E-01	1.19E-04	1.21E-08
	1500	1.51E-01	9.06E-05	5.98E-01	3.59E-04	3.62E-08
	2100	2.11E-01	1.27E-04	8.22E-01	4.93E-04	5.07E-08
	3000	3.03E-01	1.82E-04	1.20E+00	7.20E-04	7.24E-08
	150	1.21E-02	7.26E-06	6.09E-02	3.65E-05	3.62E-09
	500	4.05E-02	2.43E-05	2.03E-01	1.22E-04	1.21E-08

Fast Reactor Spent	1500	1.21E-01	7.26E-05	6.08E-01	3.65E-04	3.62E-08
	2100	1.69E-01	1.01E-04	8.51E-01	5.11E-04	5.07E-08
	3000	2.43E-01	1.46E-04	1.22E+00	7.31E-04	7.24E-08
UO ₂ (Aqueous Product)	150	1.47E-02	8.82E-06	2.49E-02	1.49E-05	3.62E-09
	500	5.04E-02	3.02E-05	8.46E-02	5.08E-05	1.21E-08
	1500	1.47E-01	8.82E-05	2.49E-01	1.49E-04	3.62E-08
	2100	2.06E-01	1.24E-04	3.47E-01	2.08E-04	5.07E-08
	3000	2.94E-01	1.76E-04	4.96E-01	2.98E-04	7.24E-08
UMet (Electrochem. Product)	150	1.47E-02	8.82E-06	2.49E-02	1.49E-05	3.62E-09
	500	5.04E-02	3.02E-05	8.46E-02	5.08E-05	1.21E-08
	1500	1.47E-01	8.82E-05	2.49E-01	1.49E-04	3.62E-08
	2100	2.06E-01	1.24E-04	3.47E-01	2.08E-04	5.07E-08
	3000	2.94E-01	1.76E-04	4.96E-01	2.98E-04	7.24E-08
LWR SNF	150	1.21E-02	7.26E-06	6.09E-02	3.65E-05	3.62E-09
	500	4.05E-02	2.43E-05	2.03E-01	1.22E-04	1.21E-08
	1500	1.21E-01	7.26E-05	6.08E-01	3.65E-04	3.62E-08
	2100	1.69E-01	1.01E-04	8.51E-01	5.11E-04	5.07E-08
	3000	2.43E-01	1.46E-04	1.22E+00	7.31E-04	7.24E-08
Thorium SNF	150	1.21E-02	7.26E-06	6.09E-02	3.65E-05	3.62E-09
	500	4.05E-02	2.43E-05	2.03E-01	1.22E-04	1.21E-08
	1500	1.21E-01	7.26E-05	6.08E-01	3.65E-04	3.62E-08
	2100	1.69E-01	1.01E-04	8.51E-01	5.11E-04	5.07E-08
	3000	2.43E-01	1.46E-04	1.22E+00	7.31E-04	7.24E-08
HWR SNF	150	1.21E-02	7.26E-06	6.09E-02	3.65E-05	3.62E-09
	500	4.05E-02	2.43E-05	2.03E-01	1.22E-04	1.21E-08
	1500	1.21E-01	7.26E-05	6.08E-01	3.65E-04	3.62E-08
	2100	1.69E-01	1.01E-04	8.51E-01	5.11E-04	5.07E-08
	3000	2.43E-01	1.46E-04	1.22E+00	7.31E-04	7.24E-08
HTGR SNF	150	1.21E-02	7.26E-06	6.09E-02	3.65E-05	3.62E-09
	500	4.05E-02	2.43E-05	2.03E-01	1.22E-04	1.21E-08
	1500	1.21E-01	7.26E-05	6.08E-01	3.65E-04	3.62E-08
	2100	1.69E-01	1.01E-04	8.51E-01	5.11E-04	5.07E-08
	3000	2.43E-01	1.46E-04	1.22E+00	7.31E-04	7.24E-08
Trans fuel	150	9.95E-03	5.97E-06	2.49E-02	1.49E-05	3.62E-09
	500	3.32E-02	1.99E-05	8.30E-02	4.98E-05	1.21E-08
	1500	9.94E-02	5.96E-05	2.49E-01	1.49E-04	3.62E-08
	2100	1.39E-01	8.34E-05	3.49E-01	2.09E-04	5.07E-08
	3000	1.99E-01	1.19E-04	4.96E-01	2.98E-04	7.24E-08
Fresh MOX	150	1.13E-03	6.78E-07	2.64E-02	1.58E-05	3.62E-09
	500	3.77E-03	2.26E-06	8.81E-02	5.29E-05	1.21E-08
	1500	1.13E-02	6.78E-06	2.64E-01	1.58E-04	3.62E-08
	2100	1.58E-02	9.48E-06	3.70E-01	2.22E-04	5.07E-08
	3000	2.26E-02	1.36E-05	5.27E-01	3.16E-04	7.24E-08
GTCC	150	1.51E-02	9.06E-06	2.54E-02	1.53E-05	3.62E-09
	500	5.04E-02	3.02E-05	8.46E-02	5.08E-05	1.21E-08
	1500	1.51E-01	9.06E-05	2.54E-01	1.53E-04	3.62E-08
	2100	2.11E-01	1.27E-04	3.56E-01	2.14E-04	5.07E-08
	3000	3.03E-01	1.82E-04	5.07E-01	3.04E-04	7.24E-08

	150	1.21E-02	7.26E-06	6.09E-02	3.65E-05	3.62E-09
MOX	500	4.05E-02	2.43E-05	2.03E-01	1.22E-04	1.21E-08
	1500	1.21E-01	7.26E-05	6.08E-01	3.65E-04	3.62E-08
	2100	1.69E-01	1.01E-04	8.51E-01	5.11E-04	5.07E-08
	3000	2.43E-01	1.46E-04	1.22E+00	7.31E-04	7.24E-08
	150	3.20E-03	1.92E-06	1.02E-02	6.12E-06	3.62E-09
LLW	500	1.07E-02	6.42E-06	3.39E-02	2.03E-05	1.21E-08
	1500	3.20E-02	1.92E-05	1.02E-01	6.12E-05	3.62E-08
	2100	4.48E-02	1.92E-05	1.43E-01	6.12E-05	5.07E-08
	3000	6.40E-02	3.84E-05	2.03E-01	1.22E-04	7.24E-08

		Crew Impacts		Impacts to Public		
	Mileage	Person-Rem	LCFs	Person-Rem	LCFs	Non-Radiological Emission Fatalities
	2.20E+02	1.32E-01	1.11E+03	6.64E-01	6.59E-05	
	2.05E+01	1.23E-02	4.81E+02	2.89E-01	6.59E-05	
	3.04E+02	1.83E-01	1.53E+03	9.19E-01	9.13E-05	
	3.04E+02	1.83E-01	1.53E+03	9.19E-01	9.13E-05	
	5.65E+01	3.39E-02	2.96E+02	1.78E-01	1.83E-05	
	2.28E+02	1.37E-01	8.88E+02	5.33E-01	5.48E-05	
	3.28E+01	1.97E-02	6.30E+02	3.78E-01	3.95E-05	
	7.32E+02	4.39E-01	1.24E+03	7.41E-01	1.76E-04	
	1.36E+02	5.82E-02	4.33E+02	1.85E-01	1.54E-04	
	7.42E+01	4.45E-02	1.25E+02	7.50E-02	1.83E-05	
	8.03E+01	4.82E-02	1.35E+02	8.12E-02	1.98E-05	
	2.19E+03	1.29E+00	8.39E+03	4.96E+00	7.94E-04	
	6.95E+02	4.17E-01	3.50E+03	2.10E+00	2.08E-04	
	2.28E+02	1.37E-01	1.15E+03	6.89E-01	6.84E-05	
	1.88E+02	1.13E-01	4.71E+02	2.83E-01	6.84E-05	
	3.56E+01	2.13E-02	8.33E+02	5.00E-01	1.14E-04	
	5.65E+01	3.39E-02	2.96E+02	1.78E-01	1.83E-05	
	2.24E+02	1.35E-01	8.74E+02	5.24E-01	5.39E-05	
	3.22E+01	1.93E-02	6.20E+02	3.72E-01	3.89E-05	
	7.05E+02	4.23E-01	1.19E+03	7.13E-01	1.69E-04	
	1.24E+02	5.30E-02	3.95E+02	1.69E-01	1.40E-04	
	6.02E+01	3.61E-02	1.01E+02	6.08E-02	1.48E-05	
	2.35E+03	1.39E+00	9.42E+03	5.59E+00	8.94E-04	
	1.13E+03	6.76E-01	5.68E+03	3.41E+00	3.38E-04	
	5.77E+01	3.46E-02	1.35E+03	8.10E-01	1.85E-04	
	2.16E+02	1.29E-01	8.40E+02	5.04E-01	5.18E-05	
	3.10E+01	1.86E-02	5.96E+02	3.58E-01	3.74E-05	
	7.15E+02	4.29E-01	1.21E+03	7.24E-01	1.72E-04	
	9.95E+01	4.26E-02	3.17E+02	1.36E-01	1.13E-04	
	2.25E+03	1.33E+00	9.99E+03	5.94E+00	8.97E-04	
	3.04E+02	1.83E-01	1.53E+03	9.19E-01	9.13E-05	
	2.84E+01	1.71E-02	6.66E+02	4.00E-01	9.13E-05	
	1.98E+02	1.19E-01	7.73E+02	4.64E-01	4.77E-05	
	2.86E+01	1.71E-02	5.49E+02	3.30E-01	3.45E-05	
	1.29E+01	7.72E-03	2.17E+01	1.30E-02	3.09E-06	
	2.31E+01	9.91E-03	7.38E+01	3.16E-02	2.62E-05	
	1.03E+02	6.16E-02	1.73E+02	1.04E-01	2.52E-05	
	3.60E+01	2.16E-02	8.44E+02	5.06E-01	1.16E-04	
	3.85E+02	2.31E-01	1.94E+03	1.16E+00	1.16E-04	
	1.12E+03	6.68E-01	6.57E+03	3.93E+00	5.50E-04	

2.31E+01	9.91E-03	7.38E+01	3.16E-02	2.62E-05
4.96E+01	2.98E-02	1.16E+03	6.97E-01	1.59E-04
5.31E+02	3.18E-01	2.67E+03	1.60E+00	1.59E-04
6.03E+02	3.58E-01	3.91E+03	2.33E+00	3.45E-04
2.31E+01	9.91E-03	7.38E+01	3.16E-02	2.62E-05
1.06E+02	6.36E-02	2.48E+03	1.49E+00	3.40E-04
1.13E+03	6.80E-01	5.71E+03	3.43E+00	3.40E-04
1.26E+03	7.54E-01	8.27E+03	4.95E+00	7.07E-04
2.31E+01	9.91E-03	7.38E+01	3.16E-02	2.62E-05
1.18E+03	7.06E-01	2.76E+04	1.65E+01	3.78E-03
1.26E+04	7.55E+00	6.34E+04	3.80E+01	3.78E-03
1.38E+04	8.27E+00	9.10E+04	5.46E+01	7.58E-03
3.67E+02	2.20E-01	1.85E+03	1.11E+00	1.10E-04
3.43E+01	2.06E-02	8.03E+02	4.82E-01	1.10E-04
2.31E+01	9.91E-03	7.38E+01	3.16E-02	2.62E-05
4.24E+02	2.51E-01	2.72E+03	1.62E+00	2.46E-04

Accident Impacts

				Estimated number of accidents	Collision Fatalities (non-rad)
		person-rem	LCFs		
Aq Cs/Sr	150	4.09E-07	2.45E-10	1.17E-04	6.13E-06
	500	1.36E-06	8.16E-10	3.89E-04	2.04E-05
	1500	4.09E-06	2.45E-09	1.17E-03	6.13E-05
	2100	5.72E-06	3.43E-09	1.64E-03	8.58E-05
	3000	8.17E-06	4.90E-09	2.34E-03	1.23E-04
	150	2.06E-09	1.24E-12	1.17E-04	6.13E-06
Aq FP	500	6.87E-09	4.12E-12	3.89E-04	2.04E-05
	1500	2.06E-08	1.24E-11	1.17E-03	6.13E-05
	2100	2.92E-08	1.75E-11	1.64E-03	8.58E-05
	3000	4.12E-08	2.47E-11	2.34E-03	1.23E-04
	150	1.92E-08	1.15E-11	1.17E-04	6.13E-06
	500	6.38E-08	3.83E-11	3.89E-04	2.04E-05
Aq Metal	1500	1.92E-07	1.15E-10	1.17E-03	6.13E-05
	2100	2.69E-07	1.61E-10	1.64E-03	8.58E-05
	3000	3.83E-07	2.30E-10	2.34E-03	1.23E-04
	150	2.30E-11	1.38E-14	1.17E-04	6.13E-06
	500	7.65E-11	4.59E-14	3.89E-04	2.04E-05
	1500	2.29E-10	1.37E-13	1.17E-03	6.13E-05
Aq Iodine	2100	3.21E-10	1.93E-13	1.64E-03	8.58E-05
	3000	4.59E-10	2.75E-13	2.34E-03	1.23E-04
	150	2.18E-10	1.31E-13	1.17E-04	6.13E-06
	500	7.23E-10	4.34E-13	3.89E-04	2.04E-05
	1500	2.17E-09	1.30E-12	1.17E-03	6.13E-05
	2100	3.04E-09	1.82E-12	1.64E-03	8.58E-05
EC Assembly	3000	4.34E-09	2.60E-12	2.34E-03	1.23E-04
	150	5.54E-09	3.32E-12	1.17E-04	6.13E-06
	500	1.84E-08	1.10E-11	3.89E-04	2.04E-05
	1500	5.53E-08	3.32E-11	1.17E-03	6.13E-05
	2100	3.22E-08	1.93E-11	1.64E-03	8.58E-05
	3000	1.11E-07	6.66E-11	2.34E-03	1.23E-04
EC FP	150	5.54E-09	3.32E-12	1.17E-04	6.13E-06
	500	1.84E-08	1.10E-11	3.89E-04	2.04E-05
	1500	5.53E-08	3.32E-11	1.17E-03	6.13E-05
	2100	3.22E-08	1.93E-11	1.64E-03	8.58E-05
	3000	1.11E-07	6.66E-11	2.34E-03	1.23E-04
	150	2.31E-10	1.39E-13	1.17E-04	6.13E-06
EC Metal	500	7.68E-10	4.61E-13	3.89E-04	2.04E-05
	1500	2.30E-09	1.38E-12	1.17E-03	6.13E-05
	2100	3.22E-09	1.93E-12	1.64E-03	8.58E-05
	3000	4.61E-09	2.77E-12	2.34E-03	1.23E-04
	150	9.83E-08	5.90E-11	1.17E-04	6.13E-06
	500	3.27E-07	1.96E-10	3.89E-04	2.04E-05
Fast Reactor Fresh	1500	9.81E-07	5.89E-10	1.17E-03	6.13E-05
	2100	1.37E-06	8.22E-10	1.64E-03	8.58E-05
	3000	1.96E-06	1.18E-09	2.34E-03	1.23E-04
	150	1.02E-04	6.12E-08	1.17E-04	6.13E-06
	500	3.40E-04	2.04E-07	3.89E-04	2.04E-05

	1500	1.02E-03	6.12E-07	1.17E-03	6.13E-05
Fast Reactor Spent	2100	1.43E-03	8.58E-07	1.64E-03	8.58E-05
	3000	2.04E-03	1.22E-06	2.34E-03	1.23E-04
	150	9.87E-14	5.92E-17	1.17E-04	6.13E-06
UOx (Aqueous Product)	500	3.28E-13	1.97E-16	3.89E-04	2.04E-05
	1500	9.85E-13	5.91E-16	1.17E-03	6.13E-05
	2100	1.38E-12	8.28E-16	1.64E-03	8.58E-05
	3000	1.97E-12	1.18E-15	2.34E-03	1.23E-04
UMet (Electrochem. Product)	150	1.11E-13	6.66E-17	1.17E-04	6.13E-06
	500	3.70E-13	2.22E-16	3.89E-04	2.04E-05
	1500	1.11E-12	6.66E-16	1.17E-03	6.13E-05
	2100	1.55E-12	9.30E-16	1.64E-03	8.58E-05
	3000	2.22E-12	1.33E-15	2.34E-03	1.23E-04
LWR SNF	150	1.24E-06	7.44E-10	1.17E-04	6.13E-06
	500	4.13E-06	2.48E-09	3.89E-04	2.04E-05
	1500	1.24E-05	7.44E-09	1.17E-03	6.13E-05
	2100	1.74E-05	1.04E-08	1.64E-03	8.58E-05
	3000	2.48E-05	1.49E-08	2.34E-03	1.23E-04
Thorium SNF	150	8.51E-10	5.11E-13	1.17E-04	6.13E-06
	500	2.83E-09	1.70E-12	3.89E-04	2.04E-05
	1500	8.38E-09	5.03E-12	1.17E-03	6.13E-05
	2100	1.16E-08	6.96E-12	1.64E-03	8.58E-05
	3000	1.68E-08	1.01E-11	2.34E-03	1.23E-04
HWR SNF	150	3.68E-09	2.21E-12	1.17E-04	6.13E-06
	500	1.24E-08	7.44E-12	3.89E-04	2.04E-05
	1500	3.69E-08	2.21E-11	1.17E-03	6.13E-05
	2100	5.10E-08	3.06E-11	1.64E-03	8.58E-05
	3000	7.37E-08	4.42E-11	2.34E-03	1.23E-04
HTGR SNF	150	3.75E-12	2.25E-15	1.17E-04	6.13E-06
	500	1.25E-11	7.50E-15	3.89E-04	2.04E-05
	1500	3.74E-11	2.24E-14	1.17E-03	6.13E-05
	2100	5.24E-11	3.14E-14	1.64E-03	8.58E-05
	3000	7.48E-11	4.49E-14	2.34E-03	1.23E-04
Trans fuel	150	9.91E-07	5.95E-10	1.17E-04	6.13E-06
	500	3.30E-06	1.98E-09	3.89E-04	2.04E-05
	1500	9.85E-06	5.91E-09	1.17E-03	6.13E-05
	2100	1.39E-05	8.34E-09	1.64E-03	8.58E-05
	3000	1.97E-05	1.18E-08	2.34E-03	1.23E-04
Fresh MOX	150	1.06E-11	6.36E-15	1.17E-04	6.13E-06
	500	3.54E-11	2.12E-14	3.89E-04	2.04E-05
	1500	1.06E-10	6.36E-14	1.17E-03	6.13E-05
	2100	1.49E-10	8.94E-14	1.64E-03	8.58E-05
	3000	2.12E-10	1.27E-13	2.34E-03	1.23E-04
GTCC	150	1.17E-10	7.02E-14	1.17E-04	6.13E-06
	500	3.88E-10	2.33E-13	3.89E-04	2.04E-05
	1500	1.16E-09	6.96E-13	1.17E-03	6.13E-05
	2100	1.62E-09	9.72E-13	1.64E-03	8.58E-05
	3000	2.33E-09	1.40E-12	2.34E-03	1.23E-04

	150	9.94E-07	5.96E-10	1.17E-04	6.13E-06
	500	3.31E-06	1.99E-09	3.89E-04	2.04E-05
	1500	9.93E-06	5.96E-09	1.17E-03	6.13E-05
	2100	1.39E-05	8.34E-09	1.64E-03	8.58E-05
	3000	1.99E-05	1.19E-08	2.34E-03	1.23E-04
MOX	150			1.17E-04	6.13E-06
	500			3.89E-04	2.04E-05
	1500			1.17E-03	6.13E-05
	2100			1.64E-03	8.58E-05
	3000			2.34E-03	1.23E-04
LLW	150			1.17E-04	6.13E-06
	500			3.89E-04	2.04E-05
	1500			1.17E-03	6.13E-05
	2100			1.64E-03	8.58E-05
	3000			2.34E-03	1.23E-04

				Estimated number of accidents	Collision Fatalities (non-rad)	
	person-rem	LCFs				
	2.26E-02	1.36E-05		2.13E+00 2.13E+00	1.12E-01 1.12E-01	Collision
	2.57E+00	1.54E-03		2.95E+00	1.54E-01	
	3.13E-02	1.88E-05		2.95E+00	1.54E-01	fatalities
	2.06E-03	1.24E-06		5.90E-01	3.09E-02	
	2.91E-04	1.74E-07		1.77E+00	9.27E-02	
	2.28E-05	1.37E-08		1.28E+00	6.69E-02	
	5.62E-06	3.37E-09		5.69E+00	2.98E-01	
	0.00E+00	0.00E+00		4.97E+00	2.60E-01	
	4.97E-10	2.98E-13		5.90E-01	3.09E-02	
	5.38E-10	3.23E-13		6.40E-01	3.35E-02	
	2.63E+00	1.58E-03		2.57E+01	1.34E+00	1.35E+00
	5.71E-02	3.43E-05		6.74E+00	3.53E-01	
	1.93E+00	1.16E-03		2.21E+00	1.16E-01	
	1.88E-02	1.13E-05		2.21E+00	1.16E-01	
	3.35E-07	2.01E-10		3.69E+00	1.93E-01	
	2.06E-03	1.24E-06		5.90E-01	3.09E-02	
	2.86E-04	1.72E-07		1.74E+00	9.12E-02	
	2.24E-05	1.34E-08		1.26E+00	6.58E-02	
	5.41E-06	3.25E-09		5.48E+00	2.87E-01	
	0.00E+00	0.00E+00		4.53E+00	2.37E-01	
	4.53E-10	2.72E-13		4.79E-01	2.51E-02	
	2.01E+00	1.21E-03		2.89E+01	1.51E+00	1.51E+00
	9.27E-02	5.56E-05		1.09E+01	5.72E-01	
	5.44E-07	3.26E-10		5.99E+00	3.13E-01	
	2.75E-04	1.65E-07		1.68E+00	8.77E-02	
	2.16E-05	1.29E-08		1.21E+00	6.33E-02	
	5.49E-06	3.30E-09		5.56E+00	2.91E-01	
	0.00E+00	0.00E+00		3.64E+00	1.90E-01	
	9.30E-02	5.58E-05		2.90E+01	1.52E+00	1.52E+00
	3.13E-02	1.88E-05		2.95E+00 2.95E+00	1.54E-01 1.54E-01	
	2.53E-04	1.52E-07		1.54E+00	8.07E-02	
	1.99E-05	1.19E-08		1.12E+00	5.83E-02	
	9.88E-08	5.93E-11		1.00E-01	5.23E-03	
	0.00E+00	0.00E+00		8.46E-01	4.43E-02	
	6.87E-10	4.12E-13		8.17E-01 3.74E+00	4.27E-02 1.96E-01	
	1.16E-04	6.98E-08		3.74E+00	1.96E-01	
	3.17E-02	1.90E-05		1.78E+01	9.31E-01	9.31E-01

0.00E+00	0.00E+00	8.46E-01	4.43E-02	
5.15E+00		2.69E-01		
3.64E-05	2.19E-08	5.15E+00	2.69E-01	
3.64E-05	2.19E-08	1.11E+01	5.83E-01	5.83E-01
0.00E+00	0.00E+00	8.46E-01	4.43E-02	
		1.10E+01	5.76E-01	
3.42E-04	2.05E-07	1.10E+01	5.76E-01	
3.42E-04	2.05E-07	2.29E+01	1.20E+00	1.20E+00
0.00E+00	0.00E+00	8.46E-01	4.43E-02	
1.11E-05	6.66E-09	1.22E+02	6.39E+00	
3.90E-06	2.34E-09	1.22E+02	6.39E+00	
1.50E-05	9.00E-09	2.45E+02	1.28E+01	1.28E+01
3.78E-02	2.27E-05	3.56E+00	1.86E-01	
		3.56E+00	1.86E-01	
0.00E+00	0.00E+00	8.46E-01	4.43E-02	
3.78E-02	2.27E-05	7.96E+00	4.17E-01	4.17E-01